

-> b casre
 FILE 'CASREACT' ENTERED AT 14:08:06 ON 13 AUG 2008
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FILE CONTENT:1840 - 11 Aug 2008 VOL 149 ISS 7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

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*                                     *
*   CASREACT now has more than 15.3 million reactions   *
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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his

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 ACT J086C1R/A

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L2      SCR 1941
L3      973 SEA FILE=CASREACT SSS FUL L1 AND L2 ( 6405 REACTIONS)
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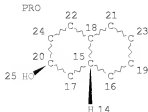
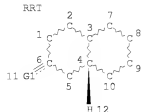
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 58 L3 AND L4
 38 L5 AND (PD<-20021028 OR AD<-20021028 OR PRD<-20021028)

FILE 'CASREACT' ENTERED AT 14:08:06 ON 13 AUG 2008

=> d que sta 13

L1 STR



VAR C1-O/S

NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

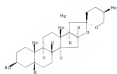
NUMBER OF NODES IS 24

STEREO ATTRIBUTES:
STEREO DEFAULT RELATIVE
NUMBER OF CHIRAL CENTERS IS 3
L2 SCR 1841
L3 973 SEA FILE-CASREACT \$\$\$ FUL L1 AND L2 (6405 REACTIONS)
99.1% DONE 1000000 VERIFIED 6405 HIT RXNS 973 DOCS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.43
FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**
BATCH **COMPLETE**
PROJECTED VERIFICATIONS: 1008972 TO 1008972
PROJECTED ANSWERS: 973 TO 1134

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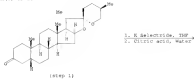
14 ANSWER 1 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(4) OF 10

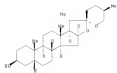


NOTE: allotropic form
 CSM: STAGE(1) 10 minutes, -10 deg C
 STAGE(2) 5 days C

RE(6) OF 10



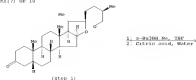
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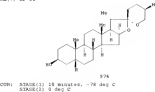
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 STAGE(2) 5 days C

14 ANSWER 1 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

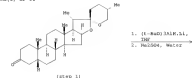
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RE(7) OF 10

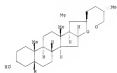


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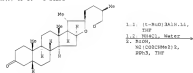
14 ANSWER 1 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(9) OF 10

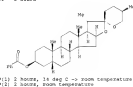


NOTE: allotropic form
 CSM: 5 hours, -12 - -30 deg C

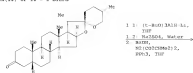
RE(9) OF 10 - 2 STEPS



RE(9) OF 10 - 2 STEPS

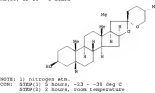


RE(10) OF 10 - 2 STEPS



14 ANSWER 1 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

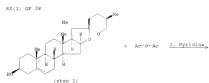
RE(10) OF 10 - 2 STEPS



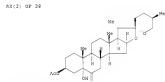
AN	ABSTRACT OF 35th CARACAS CONFERENCE 2008 ACM OR BTH
LN	138120157 CASREACT
TI	Ecdysteroid analogs based on steroidal apogonins I. Synthesis of brominated esters from diagenin. Medicinal study of these biological activity
AI	Centro, Rensselaer Lab., Teconorte, Juan Enriquez, Meneche, Francisco Coll, Luisa Javila Regalado, Gabriela, Maria Teresa
CU	Faculty of Chemistry, Dept. Organic Chemistry, Laboratory of Natural Products, University of Havana, Havana, Heneque
DO	Heneque CITEC, Universidad de Guayaquil (2002), 38(1), 19-24 C0268; KUPFER, 1550-1015-8553
JA	Centro Nacional de Investigaciones Científicas
OT	Journal
LA	English

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

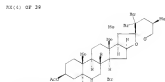
Angiostemins represent a large family of steroids comprising more than 100 compounds. They have been found in both invertebrates and plant kingdom where they play an important role in a wide range of development, growth, differentiation and reproduction. In plants, they are known to protect against phytophagous predators. The aim of the undertake report is the synthesis and structural elucidation of some of the steroids using the techniques of advanced intermediates synthesized from naturally and commercially available starting materials. The synthesis of steroid intermediates was carried out by following the following steps: 1) synthesis of substituted steroid intermediates, 2) synthesis of steroid intermediates, 3) epoxidations, and reductive cleavage of organic rings, 4) acetylation of steroid intermediates and 5) synthesis of steroid intermediates. The synthesis of several substituted intermediates, e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804,



14 ANSWER 2 OF 18 CASSIAC COPYRIGHT 2008 ACS or STM (Continued)



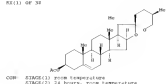
NOTE: stereoselective
COND: \$19.58(1)\$ room temperature
\$19.58(2)\$ reflux



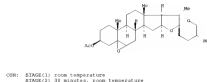
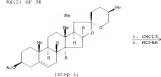
NOTE- key step- stereoselective
 COX: STAGE(1) room temperature
 STAGE(2) 2 hours, room temperature

14 ASSANGE 2 OF 19 CONTRACT COPYRIGHT 2009 ACT OR SITE (Copyright)

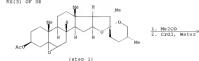
REPLY OF THE



88(2) OF 38

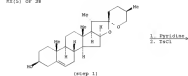


PAGE 30 OF 30

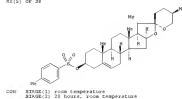


14 APPENDIX 2 OF 38 CASPRACT COPYRIGHT 2004 ACS or ITS (Continued)

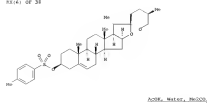
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82(5) OF 20



85(4) OF 28



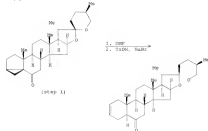
14 ANSWER 1 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(4) OF 38



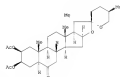
CON: 35 hours, reflux

RE(8) OF 38

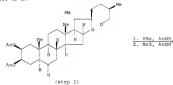
CON: STAGE(1) room temperature
STAGE(2) room temperature; 3 hours, reflux

14 ANSWER 2 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

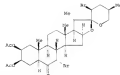
RE(10) OF 38

CON: STAGE(1) room temperature
STAGE(2) 24 hours, room temperature

RE(11) OF 38

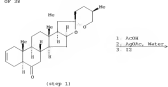


RE(12) OF 38

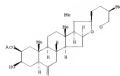
NOTE: any step stereoselective
CON: STAGE(1) room temperature
STAGE(2) room temperature; 2 hours, 50 deg C

14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

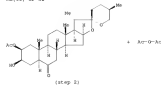
RE(9) OF 38



RE(9) OF 38

NOTE: stereoselective
CON: STAGE(1) room temperature
STAGE(2) 40 minutes, room temperature
STAGE(3) room temperature; 3 hours, 50 - 60 deg C

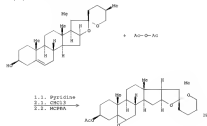
RE(10) OF 38



1. Pyridine

14 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

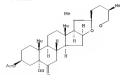
RE(11) OF 38 - 2 STAGE

CON: STAGE(1) room temperature
STAGE(2) 3 hours, room temperature
STAGE(3) room temperature
STAGE(4) 30 minutes, room temperature

RE(12) OF 38 - 2 STAGE

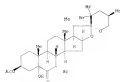
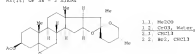


RE(13) OF 38 - 2 STAGE

NOTE: 2) stereoselective
CON: STAGE(1) room temperature
STAGE(2) 40 minutes, room temperature
STAGE(3) room temperature
STAGE(4) 2) reflux

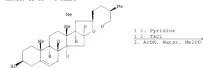
14 ANSWER 1 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(11) OF 38 - 2 STEPS



NOTE: 1) stereoselective, 2) key step, stereoselective
CON: STEP(1) 1) from temperature
STEP(1) 1) reflux
STEP(1) 1) from temperature
STEP(1) 2) 2 hours, from temperature

RE(15) OF 38 - 2 STEPS



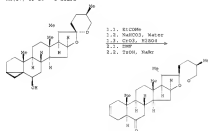
14 ANSWER 2 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(16) OF 38 - 2 STEPS



CON: STEP(1) 10 hours, reflux
STEP(1) 1) from temperature
STEP(1) 2) 5 hours, reflux, reflux -> 5 deg C
STEP(1) 3) 3 hours, 5 deg C

RE(17) OF 38 - 2 STEPS



CON: STEP(1) 1) from temperature
STEP(1) 1) from temperature 5 hours, reflux, reflux -> 5 deg C
STEP(1) 2) from temperature
STEP(1) 3) from temperature 3 hours, reflux

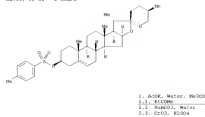
14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(18) OF 38 - 2 STEPS



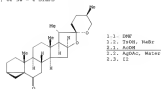
CON: STEP(1) 1) from temperature
STEP(1) 2) 10 hours, from temperature
STEP(1) 3) 2 hours, reflux

RE(19) OF 38 - 2 STEPS

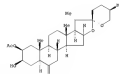


14 ANSWER 4 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(20) OF 38 - 2 STEPS

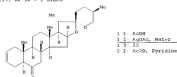


RE(21) OF 38 - 2 STEPS



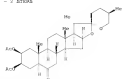
NOTE: 1) stereoselective
CON: STEP(1) 1) from temperature
STEP(1) 2) from temperature 3 hours, reflux
STEP(1) 3) from temperature
STEP(1) 4) 15 minutes, from temperature
STEP(1) 5) from temperature 3 hours, 50 - 60 deg C

RE(22) OF 38 - 2 STEPS



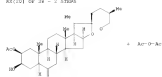
14 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(19) OF 38 - 2 STEPS



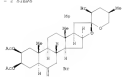
NOTE: 13 stereoselective
 COM: STDP(1-1) room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature

RE(10) OF 38 - 2 STEPS



1.1. Pyridine
 2.1. MeCN
 3.1. MeCN

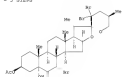
RE(10) OF 38 - 2 STEPS



NOTE: 2) key step, stereoselective
 COM: STDP(1-1) room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature

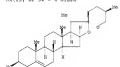
14 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(12) OF 38 - 3 STEPS



NOTE: 2) stereoselective, 3) key step, stereoselective
 COM: STDP(1-1) room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature

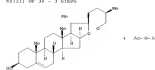
RE(12) OF 38 - 4 STEPS



1.1. Pyridine
 2.1. MeCN
 3.1. MeCN
 4.1. MeCN
 5.1. MeCN

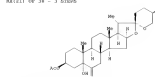
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(11) OF 38 - 3 STEPS



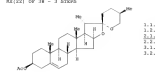
1.1. Pyridine
 2.1. MeCN
 3.1. MeCN
 4.1. MeCN

RE(11) OF 38 - 3 STEPS



NOTE: 3) stereoselective
 COM: STDP(1-1) room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature

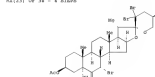
RE(12) OF 38 - 3 STEPS



1.1. MeCN
 2.1. MeCN
 3.1. MeCN
 4.1. MeCN
 5.1. MeCN

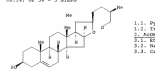
14 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(13) OF 38 - 4 STEPS



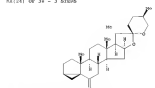
NOTE: 2) stereoselective, 4) key step, stereoselective
 COM: STDP(1-1) room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature

RE(14) OF 38 - 3 STEPS



1.1. Pyridine
 2.1. MeCN
 3.1. MeCN
 4.1. MeCN
 5.1. MeCN

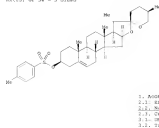
RE(14) OF 38 - 3 STEPS



NOTE: 1) room temperature
 COM: STDP(1-1) room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature
 STDP(1-1) 10 minutes, room temperature

14 ANSWER 1 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

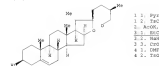
RE(15) OF 34 - 5 STEPS



RE(16) OF 34 - 3 STEPS

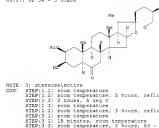


RE(16) OF 34 - 4 STEPS

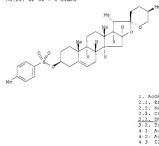


14 ANSWER 2 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(17) OF 34 - 3 STEPS

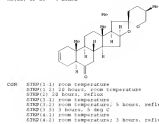


RE(18) OF 34 - 4 STEPS

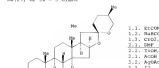


14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(16) OF 34 - 4 STEPS

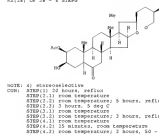


RE(17) OF 34 - 3 STEPS

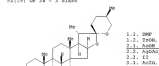


14 ANSWER 2 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

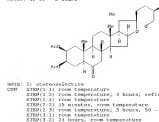
RE(18) OF 34 - 4 STEPS



RE(19) OF 34 - 3 STEPS

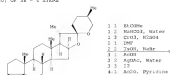


RE(20) OF 34 - 3 STEPS

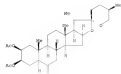


14 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(30) OF 38 - 4 STEPS

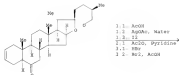


RE(30) OF 38 - 4 STEPS



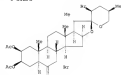
NOTE: 1) Stereoselective
COND: STDP(1.1) from temperature
STDP(1.2) from temperature; 5 hours, reflux; reflux -> 5 deg C
STDP(1.3) from temperature
STDP(1.4) from temperature; 3 hours, reflux
STDP(1.5) from temperature
STDP(1.6) from temperature; 3 hours, reflux
STDP(1.7) from temperature
STDP(1.8) 15 minutes, room temperature
STDP(1.9) from temperature; 3 hours, 50 - 60 deg C
STDP(1.10) from temperature
STDP(1.11) from temperature
STDP(1.12) 15 hours, room temperature

RE(31) OF 38 - 3 STEPS



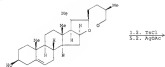
14 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(32) OF 38 - 4 STEPS

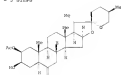


NOTE: 1) Stereoselective, 4) key step, stereoselective
COND: STDP(1.1) from temperature
STDP(1.2) from temperature; 3 hours, reflux
STDP(1.3) from temperature
STDP(1.4) 15 minutes, room temperature
STDP(1.5) from temperature; 3 hours, 50 - 60 deg C
STDP(1.6) from temperature
STDP(1.7) 15 hours, room temperature
STDP(1.8) from temperature
STDP(1.9) from temperature; 3 hours, 50 deg C

RE(32) OF 38 - 5 STEPS

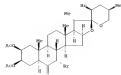


RE(32) OF 38 - 5 STEPS



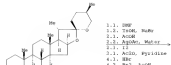
14 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(33) OF 38 - 5 STEPS



NOTE: 1) Stereoselective, 3) key step, stereoselective
COND: STDP(1.1) from temperature
STDP(1.2) 15 minutes, room temperature
STDP(1.3) from temperature; 3 hours, 50 - 60 deg C
STDP(1.4) from temperature
STDP(1.5) 14 hours, room temperature
STDP(1.6) from temperature
STDP(1.7) from temperature; 2 hours, 50 deg C

RE(33) OF 38 - 4 STEPS

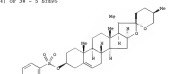


14 ANSWER 2 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

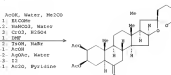
RE(34) OF 38 - 5 STEPS



RE(34) OF 38 - 5 STEPS



RE(34) OF 38 - 5 STEPS



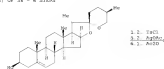
RE(34) OF 38 - 5 STEPS



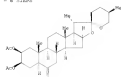
NOTE: 1) Stereoselective
COND: STDP(1.1) 15 hours, reflux
STDP(1.2) from temperature
STDP(1.3) from temperature; 5 hours, reflux; reflux -> 5 deg C
STDP(1.4) 20 hours, 5 deg C
STDP(1.5) from temperature
STDP(1.6) from temperature; 3 hours, reflux
STDP(1.7) from temperature
STDP(1.8) 15 minutes, room temperature
STDP(1.9) from temperature; 3 hours, 50 - 60 deg C
STDP(1.10) from temperature
STDP(1.11) 14 hours, room temperature

14 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(15) OF 38 - 4 STEPS



RE(15) OF 38 - 4 STEPS



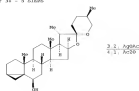
NOTE: 4) stereoselective

CDS:

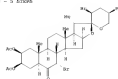
STDP(1:1) room temperature
STDP(1:1) 10 hours, reflux
STDP(1:1) room temperature
STDP(1:1) room temperature 5 hours, reflux; reflux -> 5 deg C
STDP(1:1) 10 hours, 0 deg C
STDP(1:1) room temperature 3 hours, reflux
STDP(1:1) room temperature
STDP(1:1) 10 minutes, room temperature
STDP(1:1) 10 minutes, room temperature, 50 - 60 deg C
STDP(1:1) room temperature
STDP(1:1) 10 hours, room temperature

14 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(16) OF 38 - 5 STEPS



RE(16) OF 38 - 5 STEPS



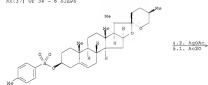
NOTE: 5) stereoselective, 5) day stop, stereoselective

CDS:

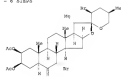
STDP(1:1) room temperature
STDP(1:1) room temperature 5 hours, reflux; reflux -> 5 deg C
STDP(1:1) 10 hours, 0 deg C
STDP(1:1) room temperature 3 hours, reflux
STDP(1:1) 10 minutes, room temperature
STDP(1:1) room temperature 3 hours, 50 - 60 deg C
STDP(1:1) room temperature
STDP(1:1) 10 hours, room temperature
STDP(1:1) room temperature 2 hours, 50 deg C

14 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(17) OF 38 - 6 STEPS



RE(17) OF 38 - 6 STEPS

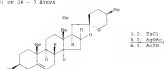


NOTE: 6) stereoselective, 6) day stop, stereoselective

CDS:

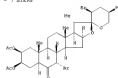
STDP(1:1) 10 hours, reflux
STDP(1:1) room temperature
STDP(1:1) room temperature 5 hours, reflux; reflux -> 5 deg C
STDP(1:1) 10 hours, 0 deg C
STDP(1:1) room temperature
STDP(1:1) room temperature 3 hours, reflux
STDP(1:1) room temperature
STDP(1:1) 10 minutes, room temperature
STDP(1:1) room temperature 3 hours, 50 - 60 deg C
STDP(1:1) 10 minutes, room temperature
STDP(1:1) 10 hours, room temperature
STDP(1:1) room temperature 2 hours, 50 deg C

RE(18) OF 38 - 7 STEPS



14 ANSWER 1 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(18) OF 38 - 7 STEPS



NOTE: 7) stereoselective, 7) day stop, stereoselective

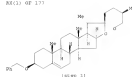
CDS:

STDP(1:1) room temperature
STDP(1:1) 10 hours, room temperature
STDP(1:1) room temperature
STDP(1:1) room temperature 5 hours, reflux; reflux -> 5 deg C
STDP(1:1) 10 hours, 0 deg C
STDP(1:1) room temperature
STDP(1:1) room temperature 3 hours, reflux
STDP(1:1) 10 minutes, room temperature
STDP(1:1) room temperature 3 hours, 50 - 60 deg C
STDP(1:1) room temperature
STDP(1:1) 10 minutes, room temperature
STDP(1:1) room temperature 2 hours, 50 deg C

FE CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE FE FOOT

14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)
 15 18-0916 CASREACT
 16 Glycosyl Trifluoroacetimidates. 2. Synthesis of Diosgenin and Related Saponin
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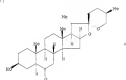
RE(2) OF 177



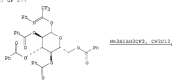
1. SUGIYAMA, T.
 2. SUGIYAMA, T.
 3. SUGIYAMA, T.
 4. SUGIYAMA, T.

14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

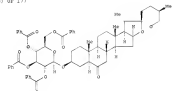
RE(2) OF 177



RE(2) OF 177



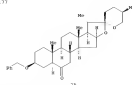
RE(2) OF 177



NOTE: stereoselective, mol. sieves used
 CDB: room temperature

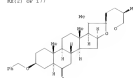
14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(1) OF 177



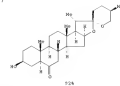
NOTE: stereoselective
 CDB: 11 hours, room temperature
 CDB(2): overnight, room temperature; pH 7
 CDB(4): 5 hours, room temperature

RE(2) OF 177



Ph, H, CDB(1), room

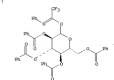
RE(2) OF 177



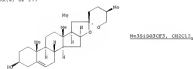
NOTE: stereoselective
 CDB: room temperature

14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

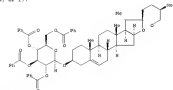
RE(2) OF 177



RE(2) OF 177



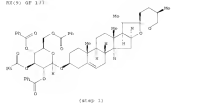
RE(2) OF 177



NOTE: stereoselective, mol. sieves used
 CDB: room temperature

14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

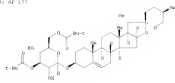
RE(9) OF 177



(step 1)

1. NaOMe, MeOH
2. Phacetyl chloride,
pyridine

RE(8) OF 177



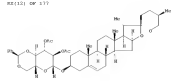
NOTE: stereoselective
CDR: STAGE(1): room temperature
STAGE(2): 0 day 0

RE(16) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(11) OF 177 - REACTION DIAGRAM NOT AVAILABLE

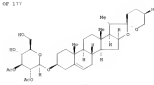
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(11) OF 177



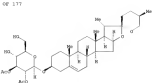
THERM_MODEL_CHEM13

RE(11) OF 177



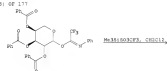
NOTE: stereoselective
CDR: room temperature

RE(13) OF 177



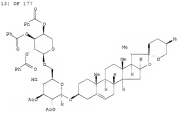
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(12) OF 177



MOLDOCK3D_CHEM13

RE(13) OF 177

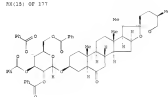


79A

NOTE: stereoselective, mol. sieves used
CDR: -18 - room temperature 8 day 0

RE(14) OF 177 - REACTION DIAGRAM NOT AVAILABLE

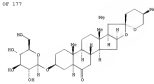
RE(12) OF 177



MOLDOCK3D_CHEM13

14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(13) OF 177

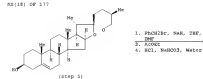


NOTE: stereoselective
CDR: STAGE(1): 3 hours, room temperature; pH 7

RE(14) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(17) OF 177 - REACTION DIAGRAM NOT AVAILABLE

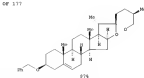
RE(14) OF 177



(step 1)

1. Phacetyl, MeOH, 2HF,
DMSO
2. HClO4
4. HCl, MeOH/20% water

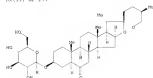
RE(14) OF 177



NOTE: stereoselective
CDR: STAGE(1): 1 hour, room temperature
STAGE(2): 3 hours, room temperature; room temperature -> reflux

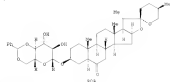
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(19) OF 177



RAC(19)(13, 14, 15, 16, 17, 18)

RE(16) OF 177



NOTE: stereoselective.

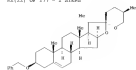
OSD: 3 hours, 50 mg C, pH 3 - 4

RE(10) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(11) OF 177 - REACTION DIAGRAM NOT AVAILABLE

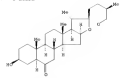
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(21) OF 177 - 3 STEPS



1. 1. H₂O, H₂O, H₂O
 1.2. H₂O, H₂O, H₂O
 1.3. H₂O, H₂O, H₂O
 1.4. H₂O, H₂O, H₂O
 1.5. H₂O, H₂O, H₂O
 1.6. H₂O, H₂O, H₂O

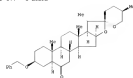
RE(21) OF 177 - 3 STEPS



S14

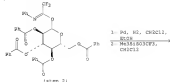
NOTE: 1) stereoselective, 2) stereoselective
 COND: 1) 1. H₂O, H₂O, H₂O
 STEP(1): 1) 1. H₂O, H₂O, H₂O
 STEP(1): 2) 1. H₂O, H₂O, H₂O
 STEP(1): 3) 1. H₂O, H₂O, H₂O
 STEP(1): 4) 1. H₂O, H₂O, H₂O
 STEP(1): 5) 1. H₂O, H₂O, H₂O

RE(21) OF 177 - 3 STEPS



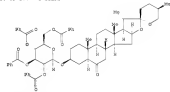
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(12) OF 177 - 3 STEPS



1. 1. H₂O, H₂O, H₂O
 1.2. H₂O, H₂O, H₂O
 1.3. H₂O, H₂O, H₂O
 1.4. H₂O, H₂O, H₂O
 1.5. H₂O, H₂O, H₂O
 1.6. H₂O, H₂O, H₂O

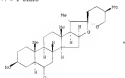
RE(12) OF 177 - 3 STEPS



S14

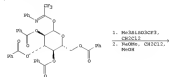
NOTE: 1) stereoselective, 2) stereoselective, mol. sizes used
 COND: 1) 1. H₂O, H₂O, H₂O
 STEP(1): 1) 1. H₂O, H₂O, H₂O
 STEP(1): 2) 1. H₂O, H₂O, H₂O
 STEP(1): 3) 1. H₂O, H₂O, H₂O

RE(14) OF 177 - 3 STEPS



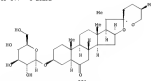
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(14) OF 177 - 3 STEPS



1. 1. H₂O, H₂O, H₂O
 1.2. H₂O, H₂O, H₂O
 1.3. H₂O, H₂O, H₂O
 1.4. H₂O, H₂O, H₂O
 1.5. H₂O, H₂O, H₂O
 1.6. H₂O, H₂O, H₂O

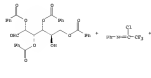
RE(14) OF 177 - 3 STEPS



S14

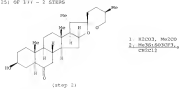
NOTE: 1) stereoselective, mol. sizes used, 2) stereoselective
 COND: 1) 1. H₂O, H₂O, H₂O
 STEP(1): 1) 1. H₂O, H₂O, H₂O
 STEP(1): 2) 1. H₂O, H₂O, H₂O
 STEP(1): 3) 1. H₂O, H₂O, H₂O

RE(15) OF 177 - 3 STEPS

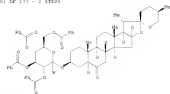


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(15) OF 177 - 3 STEPS

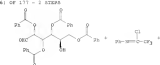


RE(16) OF 177 - 3 STEPS



NOTE: 1) Stereoselective; 2) Stereoselective, mol. sieves used
CUR: STEP(1) 0 hours, room temperature
STEP(2) 2000 temperature

RE(16) OF 177 - 3 STEPS

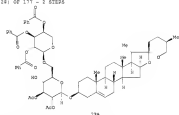


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(16) OF 177 - 3 STEPS



RE(16) OF 177 - 3 STEPS



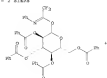
NOTE: 1) Stereoselective; 2) Stereoselective, mol. sieves used
CUR: STEP(1) -78 - room temperature
STEP(2) -78 - room temperature deg c

RE(16) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(16) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(16) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(16) OF 177 - 3 STEPS

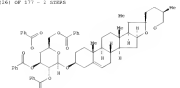


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(16) OF 177 - 2 STEPS



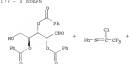
RE(16) OF 177 - 2 STEPS



NOTE: 1) Stereoselective; 2) Stereoselective, mol. sieves used
CUR: STEP(1) 0 hours, room temperature
STEP(2) 2000 temperature

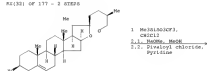
RE(17) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(16) OF 177 - 2 STEPS

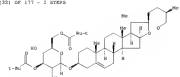


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(16) OF 177 - 2 STEPS



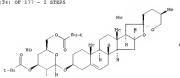
RE(16) OF 177 - 2 STEPS



NOTE: 1) Stereoselective, mol. sieves used; 2) Stereoselective
CUR: STEP(1) room temperature
STEP(2) 0 deg c
STEP(2) 0 deg c

RE(16) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(16) OF 177 - 2 STEPS

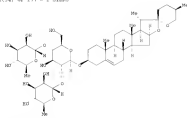


14 ANSWER 3 OF 39 CHEMTEXT COPYRIGHT 2004 ACS on STM (Continued)

RE(34) OF 177 - 3 STEPS

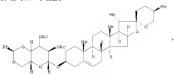


RE(34) OF 177 - 3 STEPS



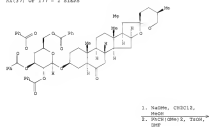
NOTE: 1) stereoselective, mol. stereochem. 2) stereoselective
 COND: 1) 100°C, 2) 100°C, 3) 100°C

RE(35) OF 177 - 3 STEPS

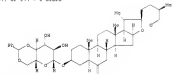


14 ANSWER 3 OF 39 CHEMTEXT COPYRIGHT 2004 ACS on STM (Continued)

RE(37) OF 177 - 3 STEPS



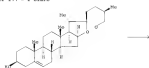
RE(37) OF 177 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective
 COND: 1) 100°C, 2) 100°C, 3) 100°C

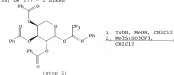
RE(38) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(39) OF 177 - 3 STEPS

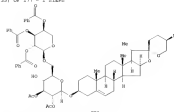


14 ANSWER 3 OF 39 CHEMTEXT COPYRIGHT 2004 ACS on STM (Continued)

RE(40) OF 177 - 3 STEPS



RE(40) OF 177 - 3 STEPS

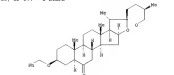


NOTE: 1) stereoselective, 2) stereoselective, mol. stereochem.
 COND: 1) 100°C, 2) 100°C, 3) 100°C

RE(40) OF 177 - REACTION DIAGRAM NOT AVAILABLE

14 ANSWER 3 OF 39 CHEMTEXT COPYRIGHT 2004 ACS on STM (Continued)

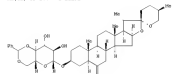
RE(40) OF 177 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective
 COND: 1) 100°C, 2) 100°C, 3) 100°C

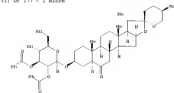
RE(40) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(41) OF 177 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective
 COND: 1) 100°C, 2) 100°C, 3) 100°C

RE(41) OF 177 - 3 STEPS

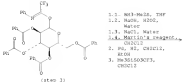


NOTE: 1) stereoselective, 2) stereoselective
 COND: 1) 100°C, 2) 100°C, 3) 100°C

14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)
 RE(43) OF 177 - REACTION DIAGRAM NOT AVAILABLE
 RE(43) OF 177 - 3 STEPS

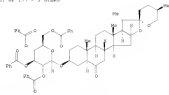


RE(43) OF 177 - 3 STEPS



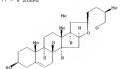
1.1. MeOH, H₂O, THF
 1.2. NaOH, H₂O, MeOH
 1.3. MeOH, Water
 1.4. MeOH, H₂O, MeOH
 1.5. MeOH, H₂O, MeOH
 1.6. MeOH, H₂O, MeOH
 1.7. MeOH, H₂O, MeOH
 1.8. MeOH, H₂O, MeOH
 1.9. MeOH, H₂O, MeOH
 1.10. MeOH, H₂O, MeOH

RE(43) OF 177 - 3 STEPS

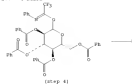


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective.
 CDB: STEP(1) 12 hours, room temperature
 STEP(2) overnight, room temperature, pH 7
 STEP(3) 8 hours, room temperature
 STEP(4) 8 hours, room temperature
 STEP(5) 8 hours, room temperature

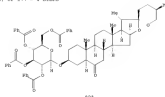
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)
 RE(44) OF 177 - 4 STEPS



RE(44) OF 177 - 4 STEPS

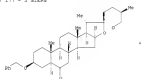


RE(44) OF 177 - 4 STEPS

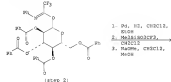


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective.
 CDB: STEP(1) 12 hours, room temperature
 STEP(2) 12 hours, room temperature
 STEP(3) 12 hours, room temperature
 STEP(4) 12 hours, room temperature
 STEP(5) 12 hours, room temperature
 STEP(6) 12 hours, room temperature
 STEP(7) 12 hours, room temperature
 STEP(8) 12 hours, room temperature
 STEP(9) 12 hours, room temperature
 STEP(10) 12 hours, room temperature

14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)
 RE(45) OF 177 - 3 STEPS

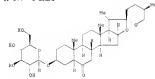


RE(45) OF 177 - 3 STEPS



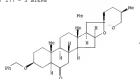
1. MeOH, H₂O, MeOH
 2. MeOH, H₂O, MeOH
 3. MeOH, H₂O, MeOH
 4. MeOH, H₂O, MeOH
 5. MeOH, H₂O, MeOH
 6. MeOH, H₂O, MeOH
 7. MeOH, H₂O, MeOH
 8. MeOH, H₂O, MeOH
 9. MeOH, H₂O, MeOH
 10. MeOH, H₂O, MeOH

RE(45) OF 177 - 3 STEPS

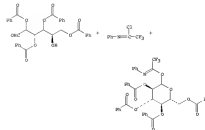


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective.
 CDB: STEP(1) 12 hours, room temperature
 STEP(2) 12 hours, room temperature
 STEP(3) 12 hours, room temperature
 STEP(4) 12 hours, room temperature

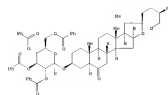
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)
 RE(46) OF 177 - 3 STEPS



RE(46) OF 177 - 3 STEPS



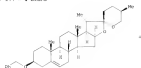
RE(46) OF 177 - 3 STEPS
 NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective.



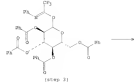
14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

NOTE: stereoselective, stereoselective, mol. sieves used.
 COM: STDP(1): room temperature
 STDP(2): room temperature
 STDP(3): 5 hours, room temperature

RE(47) OF 177 - 4 STEPS

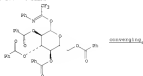


RE(47) OF 177 - 4 STEPS

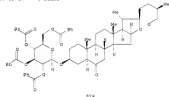


14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(48) OF 177 - 4 STEPS

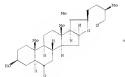


RE(48) OF 177 - 4 STEPS



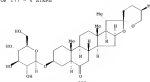
NOTE: stereoselective, stereoselective, stereoselective, mol. sieves used.
 COM: STDP(1): 11 hours, room temperature
 STDP(2): 11 hours, room temperature; pH 7
 STDP(3): 11 hours, room temperature
 STDP(4): 2 hours, room temperature

RE(49) OF 177 - 3 STEPS



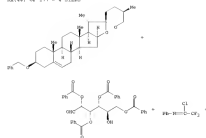
14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(47) OF 177 - 4 STEPS



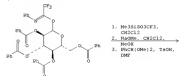
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, mol. sieves used, 4) stereoselective
 COM: STDP(1): 11 hours, room temperature
 STDP(2): 11 hours, room temperature; pH 7
 STDP(3): 41 hours, room temperature
 STDP(4): room temperature
 STDP(5): 11 hours, room temperature; pH 7

RE(48) OF 177 - 4 STEPS

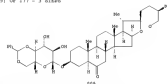


14 ANSWER 3 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(48) OF 177 - 3 STEPS

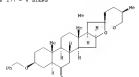


RE(48) OF 177 - 3 STEPS



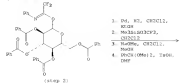
NOTE: 1) stereoselective, mol. sieves used, 2) stereoselective, 3) stereoselective
 COM: STDP(1): room temperature
 STDP(2): 11 hours, room temperature; pH 7
 STDP(3): 3 hours, 40-50°C; pH 8 - 9

RE(50) OF 177 - 4 STEPS

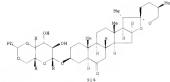


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(50) OF 177 - 4 STEPS

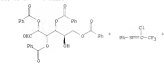


RE(50) OF 177 - 4 STEPS



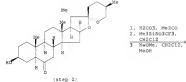
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective, 4) stereoselective
 COM: STEP(1) : room temperature
 STEP(2) : room temperature
 STEP(3) : 2 hours, room temperature, pH 7
 STEP(4) : 3 hours, 50 deg C, pH 3 - 4

RE(51) OF 177 - 4 STEPS

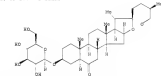


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(52) OF 177 - 3 STEPS

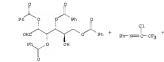


RE(52) OF 177 - 3 STEPS



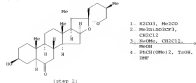
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective
 COM: STEP(1) : 2 hours, room temperature
 STEP(2) : room temperature
 STEP(3) : 2 hours, room temperature, pH 7

RE(52) OF 177 - 3 STEPS

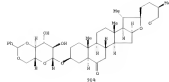


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(51) OF 177 - 4 STEPS

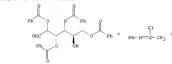


RE(51) OF 177 - 4 STEPS



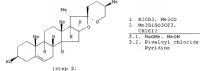
NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective, 4) stereoselective
 COM: STEP(1) : 3 hours, room temperature
 STEP(2) : room temperature
 STEP(3) : 2 hours, room temperature, pH 7
 STEP(4) : 3 hours, 50 deg C, pH 3 - 4

RE(52) OF 177 - 3 STEPS

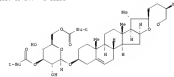


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(53) OF 177 - 3 STEPS



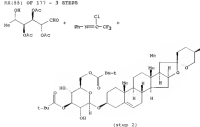
RE(53) OF 177 - 3 STEPS



NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3) stereoselective
 COM: STEP(1) : 3 hours, room temperature
 STEP(2) : room temperature
 STEP(3) : 1) from temperature
 STEP(3) : 2) 40 deg C

RE(54) OF 177 - REACTION SCHEME NOT AVAILABLE

RE(54) OF 177 - 3 STEPS

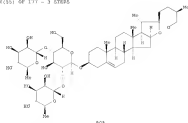


14 ANSWER 3 OF 39 CHEMISTRY COPYRIGHT 2008 ACS on STM (Continued)

RE(55) OF 177 - 3 STEPS

1. K₂CO₃, Me₂SO
2. H₂O(10:1)
3. K₂CO₃, Me₂SO, Water, 2 hr

RE(55) OF 177 - 3 STEPS

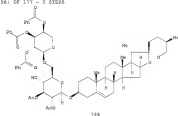


50A

NOTE: 1) stereoselective, 2) microselective, mol. sieves used, 3) stereoselective
 CDB: STEP(1): 3 hours, room temperature
 STEP(2): 3 hours, room temperature
 STEP(3): overnight, 40 mg C

14 ANSWER 3 OF 39 CHEMISTRY COPYRIGHT 2008 ACS on STM (Continued)

RE(56) OF 177 - 3 STEPS



73A

NOTE: stereoselective, stereoselective, mol. sieves used, stereoselective
 CDB: STEP(1): 3 hours, room temperature
 STEP(2): 3 hours, room temperature
 STEP(3): overnight, 40 mg C

RE(57) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(58) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(59) OF 177 - REACTION DIAGRAM NOT AVAILABLE

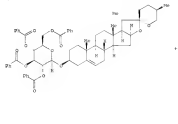
RE(60) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(61) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(62) OF 177 - REACTION DIAGRAM NOT AVAILABLE

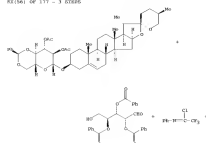
RE(63) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(64) OF 177 - 3 STEPS

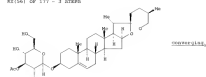


14 ANSWER 3 OF 39 CHEMISTRY COPYRIGHT 2008 ACS on STM (Continued)

RE(64) OF 177 - 3 STEPS

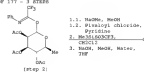


RE(64) OF 177 - 3 STEPS

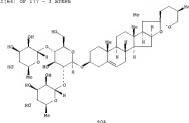


14 ANSWER 3 OF 39 CHEMISTRY COPYRIGHT 2008 ACS on STM (Continued)

RE(64) OF 177 - 3 STEPS



RE(64) OF 177 - 3 STEPS

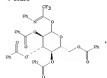


50A

NOTE: 1) stereoselective, 2) microselective, mol. sieves used, 3) stereoselective
 CDB: STEP(1): 3 hours, room temperature
 STEP(2): 3 hours, room temperature
 STEP(3): overnight, 40 mg C

RE(64) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(64) OF 177 - 4 STEPS



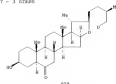
14 ASSANGE 1 OF 19 CONTACT COPYRIGHT 2009 AOL OR ITS (Unreleased)

DOI: 10.1002/eqe.2177 = PROCEEDING BEING FOR FURTHER AVAILABILITY



Chemical structure of compound 177, a steroid with a 3-hydroxy group, a 14-methyl group, and a 20-methyl group.

RE(74) OF 177 - 3 STEPS



508

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NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective
CON: STSP(1.1) 2 hours, room temperature
      STSP(1.2) 2 hours, room temperature; room temperature -> reflux
      STSP(2.1) 12 hours, room temperature
      STSP(2.2) overnight, room temperature; pH ?
      STSP(2.4) 5 hours, room temperature
      STSP(3) room temperature
```

RE(67) OF 177 - REACTION DIAGRAM NOT AVAILABLE

RE(69) OF 137 - REACTION DIAGRAM NOT AVAILABLE

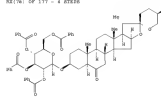
RE(69) OF 177 - REACTION DESPARE NOT AVAILABLE

14 ANSWER 1 OF 15 CARGANT COPYRIGHT 2008 AOL INC. (Continued)

14. APPENDIX 1 OF 18 CHARGES COPYRIGHT 2008 AOL INC. (Continued)

PAGE 17 OF 17 = 3 STEPS

Journal of Health Politics, Policy and Law

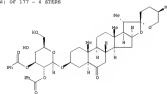


1. $\text{PhCH}(\text{OMe})_2$, TiCl_4 , DMF
2. PhCOCl , *Pyridine*
3. MeOH , CH_2Cl_2

1. NaOMe, CH₂Cl₂, NaOMe
2. POCl₃(DMSO), 2. TsOH, DMF
- 3.1. PhCOCl, Pyridine
- 3.2. AcOH
4. NaOMe, CH₂Cl₂

53(76) OF 177 = 3 STEPS

854761-00 3.77 = 4 STEPS



874

574

NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective
CUR: STEP(1) 3 hours, 10 deg C, pH 3 - 4
STEP(2) 1) 1 hour, room temperature
STEP(3) 2.5 hours, reflux

NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective
CON: STEP(1) 1 2 hours, room temperature; pH 7
STEP(2) 2 hours, 10 deg C, pH 3 - 5
STEP(3) 1 1 hour, room temperature
STEP(4) 2 5 hours, reflux

www.ck12.org - CK12 is a non-profit organization with a mission to provide free, world-class educational materials to students everywhere.

RE: 791 OF 177 - SELECTION DEAFENS NOT AVAILABLE

REF ID: A61372 - REACTION DIAGRAM NOT AVAILABLE

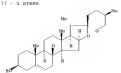
DOI: 10.1002/for

02-001 06 177 - REACTION DESIGN NOT AVAILABLE

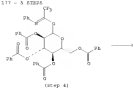
RE(41) OF 177 - SEASONAL SEIZURES NOT AVAILABLE

14 ASSANGE 1 OF 19 CONTACT CONFIDENT 2009 ACT OR SITE (CONFIDENTIAL)

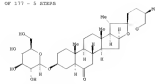
ME1031 CW 277 - 5 ITEMS



RE(WS) OF 3.77 = 5 STEPS.



RECEIVED OF 277 - 5 STEPS



```

NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4)
stereoselective, mol. sieves used, 5) stereoselective
COD: STEP(1,1) 3 hours, room temperature
STEP(2,1) 2 hours, room temperature; room temperature -> reflux
STEP(3,1) 12 hours, room temperature
STEP(4,1) overnight, room temperature; pH 7
STEP(5,4) 5 hours, room temperature
STEP(6) room temperature
STEP(7) room temperature
STEP(8,1) 2 hours, room temperature, pH 7
STEP(9) room temperature

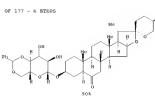
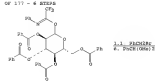
```

14 ANSWER 3 OF 38 CONTACT COPYRIGHT 2008 ACS or STN (Continued)

NOTE: stereoselective.



RECEIVED OCT 27 1966



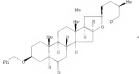
16 ARJISN 1 OF 10 CRASHACT COPYRIGHT 2002 ACS OR ITS (CONTINUED)

```

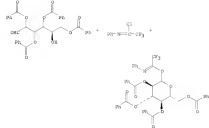
NOTE: 1) deffoodedictive, 2) deffoodedictive, 3) deffoodedictive, 4)
deffoodedictive, mol deffoodedictive, 5) deffoodedictive, 6)
deffoodedictive
CODE:
STEP(1) 1 hour, room temperature
STEP(2) 2 hours, room temperature, room temperature => reflux
STEP(3) 3 hours, room temperature
STEP(4) overnight, room temperature; pH 7
STEP(5) 4 hours, room temperature
STEP(6) room temperature
STEP(7) room temperature
STEP(8) 3 hours, room temperature; pH 7
STEP(9) 3 hours, 50 deg C, pH 1 - 4

```

PC(86) GF 1.77 = 5 STEPS.

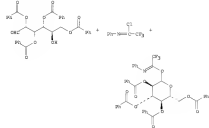


BOX(4) OF 177 - 5 STEPS

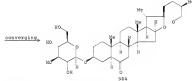


14 ANSWER 1 OF 16 CASABACT COPYRIGHT 2008 ACS on STM (Continued)

PAGE 471 OF 177 - 4 STOPS



REC(87) OF 137 - 4 STEPS

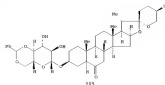


NOTE: stereoselective, stereoselective, mol. sieves used,
stereoselective, stereoselective
CON: S1P(1): room temperature
S1P(2): room temperature
S1P(3): 1) 2 hours, room temperature; pH 7
S1P(4): 3 hours, room temperature

NEW! OF 177 - REACTION DIAGRAM NOT AVAILABLE

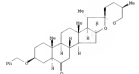
14 ASSANGE 1 OF 19 CONTRACT COPYRIGHT 2009 AOL OR ITS (Un)related

RE(96) OF 197 - 5 ITEMS

$$\frac{\text{converging}}{\text{DSC}(0.05e)2}$$


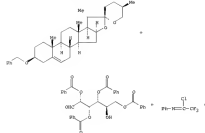
```
NOTE: stereoselective, stereoselective, mol, sieves used,
stereoselective, stereoselective, stereoselective
CON:
STEP(1): room temperature
STEP(2): room temperature
STEP(3): 1, 2 hours, room temperature; pH 7
STEP(4): 3 hours, 50 deg c, pH 3 - 4
STEP(5): 3 hours, room temperature
```

REMARK: OF 237 = 4 STEPS

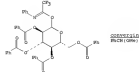


14 ANSWER 2 OF 38 CONTACT COPYRIGHT 2004 ACS on STD (Continued)

BX(89) 547 177 - 4 618P5



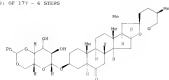
83(192) 547 177 - 4 67896



CONCLUSIONS

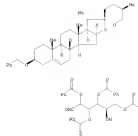
14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(61) OF 177 - 4 STEPS



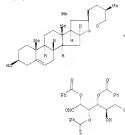
NOTE: stereoselective, stereoselective, stereoselective, mol. sieve used, stereoselective, stereoselective, stereoselective
 COND: STEP(1): 11 hours, room temperature
 STEP(2): overnight, room temperature; pH 7
 STEP(3): 5 hours, room temperature
 STEP(4): 3 hours, room temperature
 STEP(5): 2 hours, room temperature; pH 7
 STEP(6): 5 hours, 50 deg C, 50 psi - 4
 STEP(7): 3 hours, room temperature

RE(64) OF 177 - 3 STEPS



14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

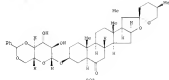
RE(62) OF 177 - 7 STEPS



RE(62) OF 177 - 7 STEPS

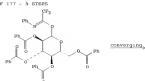


RE(62) OF 177 - 7 STEPS

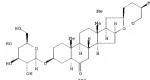


14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(61) OF 177 - 5 STEPS



RE(61) OF 177 - 5 STEPS



NOTE: stereoselective, stereoselective, stereoselective, mol. sieve used, stereoselective, stereoselective
 COND: STEP(1): 11 hours, room temperature
 STEP(2): overnight, room temperature; pH 7
 STEP(3): 5 hours, room temperature
 STEP(4): 3 hours, room temperature
 STEP(5): 2 hours, room temperature; pH 7
 STEP(6): 3 hours, room temperature

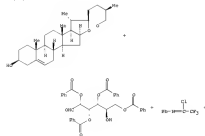
RE(61) OF 177 - REACTION SCHEMATIC NOT AVAILABLE

14 ANSWER 3 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

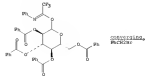
RE(62) OF 177 - 7 STEPS



RE(62) OF 177 - 4 STEPS

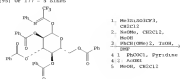


RE(62) OF 177 - 4 STEPS

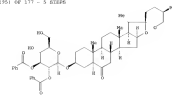


14 ASSANGE 1 OF 19 CONTACT CONFIDENT 2009 ACT OR SITE (CONFIDENTIAL)

RE(95) 00 177 - 5 STAGE



BX(95) 44 177 - 5 STEPS



NOTE: 1) stereoselective, mol. sieves used, 2) stereoselective, 3)
stereoselective, 4) stereoselective, 5) stereoselective

COH:

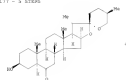
STEP(1) room temperature

STEP(2) 1) 2 hours, room temperature; pH 7

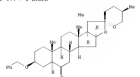
STEP(3) 3 hours, 50 deg C, pH 3 - 4

STEP(4) 1 hour, room temperature

STEP(5) 2.5 hours, reflux

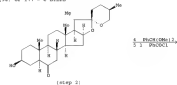


821961 OF 277 - 6 STEPS

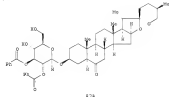


14 ANSWER 2 OF 38 CRYSTAL COPYRIGHT 2008 ACS or STN (Continued)

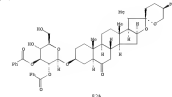
RX(98) OF 177 - 6 STEPS



RE(99) OF 177 - 6 STEPS



RE(99) OF 177 - 6 STEPS

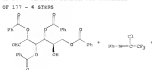


```

NOTE: 1) stereoselective, 2) stereoselective, mol. sieves used, 3)
stereoselective, 4) stereoselective, 5) stereoselective, 6)
stereoselective
COH: STEP(1): 3 hours, room temperature
STEP(2): room temperature
STEP(3): 1 1/2 hours, room temperature, pH 7
STEP(4): 3 hours, 50 °C, pH 3 - 4
STEP(5): 1 1/2 hour, room temperature
STEP(6): 2 1/2 hours, reflux

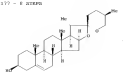
```

NE(99) CAP 277 = 3 STEPS

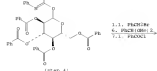


14 ASSANGE 1 OF 19 CONTACT CONFIDENT 2009 ACT OR SITE (CONFIDENTIAL)

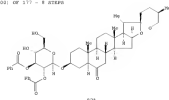
RE(100) OF 177 - 8 WREDS



RE(102) OF 277 = 8.6784%



RE(102) OF 277 - 8 STEPS



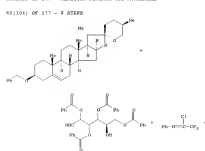
14 ANSWER 2 OF 18 CONTACT COPYRIGHT 2008 ACS on STN (Continued)

RE41021 OF 277 - 7 STEPS

converging
 $\text{PbCl}_2(\text{OH})_2 \rightarrow$
 PbOCl_2

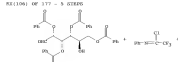


RE1031 OF 177 - REACTION DIAGRAM NOT AVAILABLE



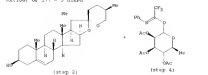
14 ASSANGE 1 OF 19 CONTACT CONFIDENT 2009 ACT OR SITE (CONFIDENTIAL)

RE(104) 00 377 - 5 STEPS



$$\frac{\partial \ln \Gamma(\alpha)}{\partial \alpha} = \psi(\alpha)$$

8341061 087 277 - 5 STEPS



828

1. KIO_3 , Na_2CO_3
2. $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$,
 CH_3COCl_2
- 3.1. NaOH , NaOH
- 3.2. Pivaloyl chloride,
Pyridine
4. $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$,
 CH_3COCl_2
5. NaOH , NaOH , Water.

REASON: 000 172 = 5 STEPS

The chemical structure of compound 1 is a complex steroid derivative. It features a four-ring steroid nucleus with several functional groups. On the left, there is a side chain with multiple hydroxyl groups and a methyl group. The main ring system has several methyl groups at positions 10, 13, 14, and 15. There are also hydroxyl groups at positions 3, 11, and 17. The structure is highly branched and contains several stereocenters indicated by wedged and dashed bonds.

14 ANSWER 2 OF 38 CONTACT COPYRIGHT 2008 ACS on STN (Continued)

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NK(107) OF 277 = 4 STEPS

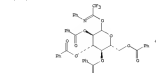
```

MS-2071 OF 277 - 6 STEPS



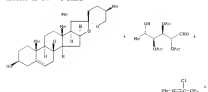
103 4. 2014

At(108) OF 177 - 5 steps



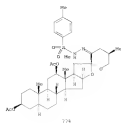
pentavalent chloride

RECORD OF 177 - 5 STEPS

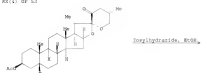

$$\text{Ph}-\text{N}(\text{C}_6\text{H}_5)_2 \xrightarrow{\text{Cl}_2} \text{Ph}-\text{N}(\text{C}_6\text{H}_5)_2\text{Cl}_2$$

14 ANSWER 4 OF 30 CINAFACT COPYRIGHT 2008 ACS on STM (Continued)

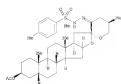
RE(3) OF 53



RE(4) OF 53

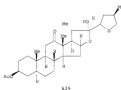


RE(5) OF 53

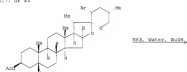


14 ANSWER 4 OF 30 CINAFACT COPYRIGHT 2008 ACS on STM (Continued)

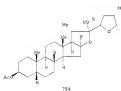
RE(6) OF 53



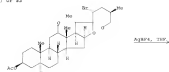
RE(7) OF 53



RE(8) OF 53

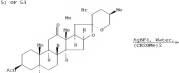


RE(9) OF 53

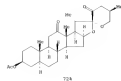


14 ANSWER 4 OF 30 CINAFACT COPYRIGHT 2008 ACS on STM (Continued)

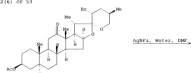
RE(10) OF 53



RE(11) OF 53

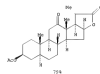


RE(12) OF 53

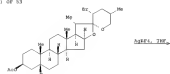


14 ANSWER 4 OF 30 CINAFACT COPYRIGHT 2008 ACS on STM (Continued)

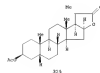
RE(13) OF 53



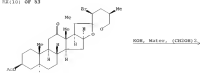
RE(14) OF 53



RE(15) OF 53

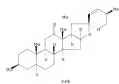


RE(16) OF 53

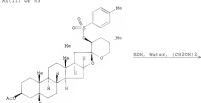


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

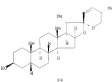
RE(10) OF 53



RE(11) OF 53

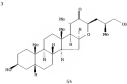


RE(12) OF 53

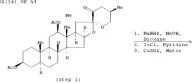


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

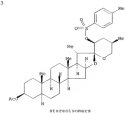
RE(13) OF 53



RE(14) OF 53



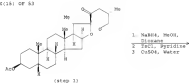
RE(15) OF 53



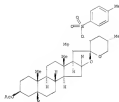
NOTE: stereoisomeric

14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(16) OF 53

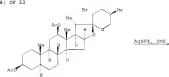


RE(17) OF 53



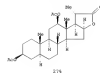
NOTE: stereoisomeric

RE(18) OF 53

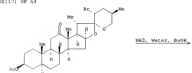


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

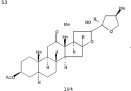
RE(19) OF 53



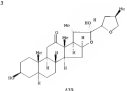
RE(20) OF 53



RE(21) OF 53

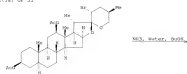


RE(22) OF 53

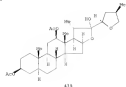


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

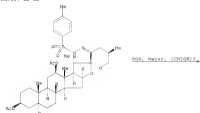
RE(16) OF 53



RE(16) OF 53

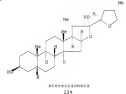


RE(19) OF 53

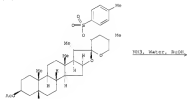


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

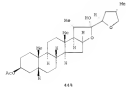
RE(20) OF 53



RE(22) OF 53

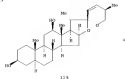


RE(22) OF 53

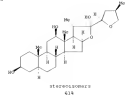


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

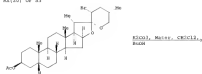
RE(15) OF 53



RE(15) OF 53

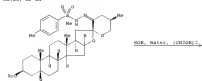


RE(20) OF 53

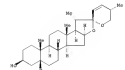


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(4) OF 53

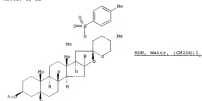


RE(4) OF 53



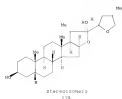
NOTE: other product(s) also detected

RE(25) OF 53

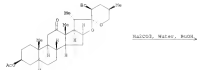


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

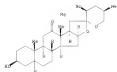
RE(24) OF 53



RE(24) OF 53

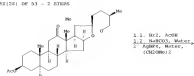


RE(24) OF 53

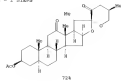


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(25) OF 53 - 2 STEPS

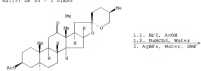


RE(25) OF 53 - 2 STEPS



NOTE: 1) Steroid 274

RE(25) OF 53 - 2 STEPS



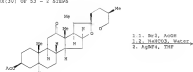
14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(26) OF 53 - 2 STEPS

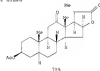


NOTE: 1) Steroid 274

RE(26) OF 53 - 2 STEPS



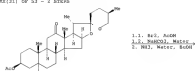
RE(26) OF 53 - 2 STEPS



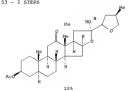
NOTE: 1) Steroid 274

14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

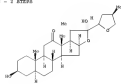
RE(27) OF 53 - 2 STEPS



RE(27) OF 53 - 2 STEPS



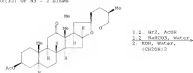
RE(27) OF 53 - 2 STEPS



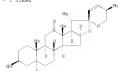
NOTE: 1) Steroid 274

14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(31) OF 53 - 2 STEPS

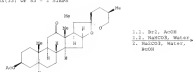


RE(32) OF 53 - 2 STEPS



NOTE: 1) stereoisomeric

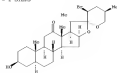
RE(33) OF 53 - 2 STEPS



NOTE: 1) stereoisomeric

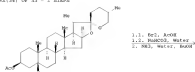
14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(33) OF 53 - 2 STEPS

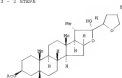


NOTE: 1) stereoisomeric

RE(34) OF 53 - 2 STEPS



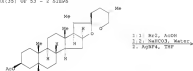
RE(34) OF 53 - 2 STEPS



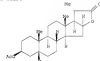
NOTE: 1) stereoisomeric

14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(35) OF 53 - 2 STEPS

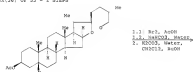


RE(36) OF 53 - 2 STEPS



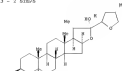
NOTE: 1) stereoisomeric

RE(36) OF 53 - 2 STEPS



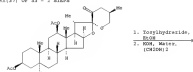
14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(36) OF 53 - 2 STEPS

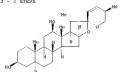


NOTE: 1) stereoisomeric

RE(37) OF 53 - 2 STEPS

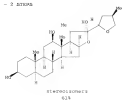


RE(37) OF 53 - 2 STEPS



14 ANSWER 4 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(3) OF 53 - 2 STEPS



RE(34) OF 53 - 2 STEPS



1. Tropylation,
2. HCl, MeOH,
(CH₃)₂O

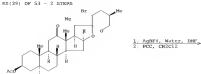
RE(34) OF 53 - 2 STEPS



NOTE: 2) other product(s) also detected

14 ANSWER 4 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(35) OF 53 - 2 STEPS



1. Pyridine, MeOH, HCl,
2. HCl, CHCl₃

RE(35) OF 53 - 2 STEPS



RE(40) OF 53 - 2 STEPS



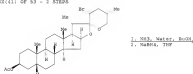
1. HCl, MeOH, Pyridine,
2. Pyridine, CHCl₃

RE(40) OF 53 - 2 STEPS



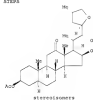
14 ANSWER 4 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(41) OF 53 - 2 STEPS

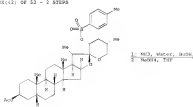


1. HCl, MeOH, Pyridine,
2. Pyridine, HCl

RE(41) OF 53 - 2 STEPS



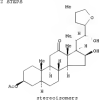
RE(42) OF 53 - 2 STEPS



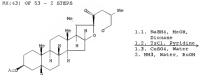
1. HCl, MeOH, Pyridine,
2. Pyridine, HCl

14 ANSWER 4 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(41) OF 53 - 2 STEPS

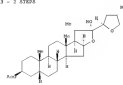


RE(42) OF 53 - 2 STEPS



1.1. NaOH, MeOH,
Pyridine
1.2. Pyridine, Pyridine,
1.3. HCl, MeOH
2. MeOH, MeOH, HCl

RE(43) OF 53 - 2 STEPS



NOTE: 2) steroidolone

14 ANSWER 1 OF 39 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(51) OF 53 - 3 STEPS

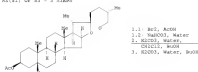


RE(51) OF 53 - 3 STEPS



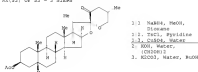
NOTE: 1) Stereoselective

RE(51) OF 53 - 3 STEPS

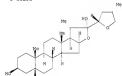


14 ANSWER 4 OF 39 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(52) OF 53 - 3 STEPS



RE(52) OF 53 - 3 STEPS

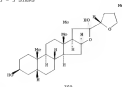


NOTE: 1) Stereoselective

RE ENT 24 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS PRODUCT
ALL CITATIONS AVAILABLE IN THE RE PRODUCT

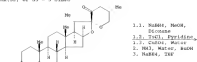
14 ANSWER 4 OF 39 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(51) OF 53 - 3 STEPS



NOTE: 1) Stereoselective

RE(51) OF 53 - 3 STEPS



RE(51) OF 53 - 3 STEPS



NOTE: 1) Stereoselective

14 ANSWER 5 OF 39 CASREACT COPYRIGHT 2008 ACS on STN

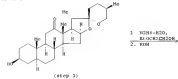
RE(51) OF 53 - 3 STEPS

1.1. HCl , AcOH
 1.2. NaHCO_3 , Water
 2. HCl , Water , AcOH
 3. NaHCO_3 , H_2O

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE VIEWER *

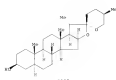
14 The basic raw material for steroid synthesis is progesterone (I, $\text{C}_{21}\text{H}_{32}\text{O}$), which is obtained from henejone juice, a byproduct from a natural source like Agave fourcroydes, available in Cuba. This fact led us to develop a procedure for oreganone synthesis (II) synthesis. Oreganone is an antibiotic steroid used in the treatment of ophthalmic lesions and other kind diseases. The first step of oreganone synthesis is the obtention of tigogenin (I, $\text{C}_{21}\text{H}_{32}\text{O}$ - $\text{C}_{21}\text{H}_{32}\text{O}$) by Wolff-Kishner reduction. Many studies modification, especially in the synthesis of oreganone, have been reported. Due to the high reaction temperature, non-conventional reactions have to be used in the industry in this step. The goal of this work is consequently to determine the conditions which allow the optimization of the Wolff-Kishner reduction reaction for the transformation of henejone to tigogenin. This paper deals with the optimization of the Wolff-Kishner reaction using 2-methylbutanol in order to guarantee the use of conventional reactors for the process in the industry. For this purpose an aprotic, 12 factorial central composite design was used. It was demonstrated that the transformation of henejone to tigogenin from henejone juice, of 10% w/w of oreganone, requires 1.5 kg of potassium hydroxide and 4.5 kg of 2-methylbutanol. For 1 g of henejone was employed. In the other hand, although 2-methylbutanol is equally toxic as ethylene glycol, it is cheaper and it generates an aprotic, savings in the cost of raw material.

RE(1) OF 1



14 ANSWER 4 OF 30 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(1) OF 1

RE-ENT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS REACTOR
ALL CITATIONS AVAILABLE IN THE RS FORMS

14 ANSWER 4 OF 28 CASREACT COPYRIGHT 2008 ACS on STM

13711213 CASREACT

Oxidative Fragmentation of Pregna-14,16-dien-20-one to

14β-Hydroxyandrost-16-en-17-one

AG Bell, Jennifer D.; Hestonick, Clayton R.

CS Center for New Biomolecules in Organic Synthesis, Department of Chemistry,

University of California, Berkeley, CA, 94720, USA

JN Journal of Organic Chemistry 1982, 47(10), 1742-1746

COGN CODE: 000001, 0006, 0011, 0013, 0015

RS American Chemical Society

document

LA English

CS



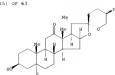
III



IV

AB Two methods have been developed for efficient conversion of pre-preg-14,16-dien-20-one into 14β-hydroxyandrost-16-en-17-one. One provides mixture of treatment of the steroid ketone successively with sodium borohydride and vinylidene cyanide. The reaction is illustrated by the conversion of pre-preg-14,16-dien-20-one to 14β-hydroxyandrost-16-en-17-one (I). The two corresponding allylic alcohols (II) (R¹ = O-Me, R² = O-Me, R³ = H-Me, R⁴ = H) Although this two-step procedure is rapid, it gives a 14β-hydroxyandrost-16-en-17-one in 80% overall yield. An alternative one-step conversion is achieved by treatment of I with a pyridine acid in the presence of a strong protic acid. This process is illustrated by the two-step conversion of 1,4β-hydroxy Androst-16-en-17-one (II) (R¹ = O-Me, R² = O-Me) to 14β-hydroxy Androst-16-en-17-one (I) (R¹ = H-Me, R² = H) in 84% overall yield.

RE(11) OF 43

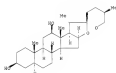


(step 1)

1. NaH, THF
2. MeI
3. MeI, THF

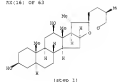
14 ANSWER 4 OF 30 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(15) OF 63



NOTE: stereoisomeric

RE(16) OF 63



(step 1)

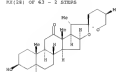
1. AcOH, Pyridine,
H₂O
2. MeI, MeI, MeI
3. MeI, MeI, MeI
4. MeI, MeI, MeI



664

14 ANSWER 4 OF 28 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(26) OF 43 - 3 STEPS

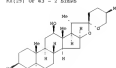


664

1.1. NaH, THF
1.2. MeI
1.3. MeI, THF
2.1. AcOH, Pyridine,
H₂O
2.2. MeI, MeI, MeI
2.3. MeI, MeI, MeI
2.4. MeI, MeI, MeI

NOTE: 1) stereoisomeric

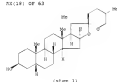
RE(29) OF 43 - 2 STEPS



736

1.1. AcOH, Pyridine,
H₂O
1.2. MeI, MeI, MeI
1.3. MeI, MeI, MeI
2.1. MeI, MeI, MeI
2.2. MeI, MeI, MeI
2.3. MeI, MeI, MeI

RE(30) OF 63



(step 1)

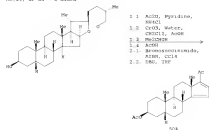
1. AcOH, Pyridine,
H₂O
2. MeI, MeI, MeI
3. MeI, MeI, MeI
4. MeI, MeI, MeI



736

14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(34) OF 63 - 2 STEPS

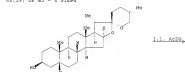


RE(35) OF 63 - 3 STEPS

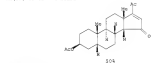


14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(39) OF 63 - 4 STEPS

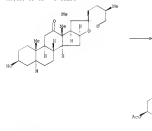


RE(39) OF 63 - 4 STEPS



NOTE: 3) stereoselective

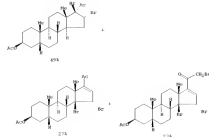
RE(43) OF 63 - 3 STEPS



NOTE: 1) stereoselective

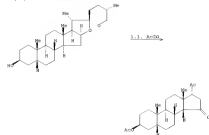
14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(35) OF 63 - 3 STEPS



NOTE: 2) stereoselective, epimeric

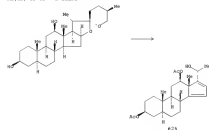
RE(38) OF 63 - 4 STEPS



NOTE: 3) stereoselective, epimeric, 34% overall yield, 4) stereoselective

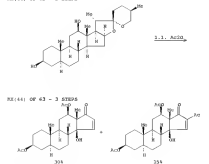
14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(43) OF 63 - 3 STEPS



NOTE: 3) stereoselective

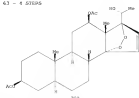
RE(44) OF 63 - 3 STEPS



NOTE: 3) stereoselective

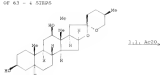
14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(15) OF 63 - 4 STEPS



NOTE: 3) stereoselective, 4) stereoselective, regioselective, obtained on reaction conditions

RE(16) OF 63 - 4 STEPS



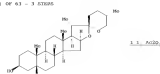
RE(16) OF 63 - 4 STEPS



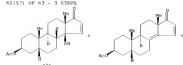
NOTE: 3) stereoselective, 4) regioselective

14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(17) OF 63 - 3 STEPS



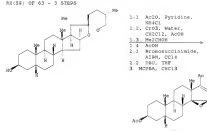
RE(17) OF 63 - 3 STEPS



NOTE: 3) stereoselective, regioselective, 38% overall yield

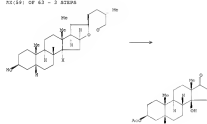
14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(18) OF 63 - 3 STEPS



NOTE: 3) stereoselective

RE(18) OF 63 - 3 STEPS



NOTE: 3) stereoselective, regioselective

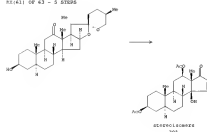
14 ANSWER 4 OF 38 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(19) OF 63 - 5 STEPS



NOTE: 3) stereoselective, 5) stereoselective

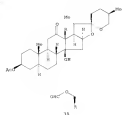
RE(19) OF 63 - 5 STEPS



NOTE: 1) stereoselective, 4) stereoselective, 5) stereoselective, regioselective

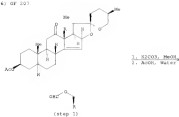
14 ANSWER 7 OF 38 CHARGED COPYRIGHT 2004 ACS on STM (Continued)

RE(3) OF 507

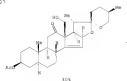


NOTE: Friesel-Crafts reaction, aluminumchloride

RE(4) OF 507

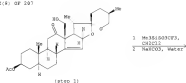


RE(4) OF 507

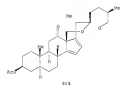


14 ANSWER 7 OF 38 CHARGED COPYRIGHT 2004 ACS on STM (Continued)

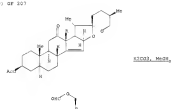
RE(4) OF 507



RE(4) OF 507

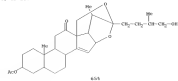


RE(4) OF 507



14 ANSWER 7 OF 38 CHARGED COPYRIGHT 2004 ACS on STM (Continued)

RE(4) OF 507

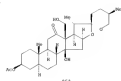


NOTE: aluminumchloride

RE(7) OF 507

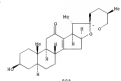


RE(7) OF 507



14 ANSWER 7 OF 38 CHARGED COPYRIGHT 2004 ACS on STM (Continued)

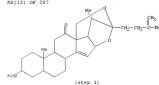
RE(9) OF 507



RE(10) OF 507 - REACTION DIAGRAM NOT AVAILABLE

RE(11) OF 507 - REACTION DIAGRAM NOT AVAILABLE

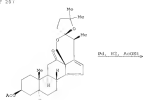
RE(12) OF 507



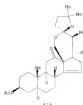
RE(12) OF 507



14 ANSWER 7 OF 38 CAGNACACT COPYRIGHT 2004 ACS on STM (Continued)
 RE(13) OF 247

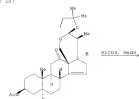


RE(12) OF 247

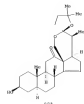


NOTE: epigallocatechin, epigallocatechin

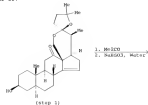
RE(14) OF 247



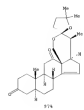
14 ANSWER 7 OF 38 CAGNACACT COPYRIGHT 2004 ACS on STM (Continued)
 RE(14) OF 247



RE(15) OF 247

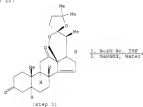


RE(16) OF 247

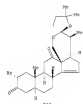


NOTE: Jones reagent used stage 3

14 ANSWER 7 OF 38 CAGNACACT COPYRIGHT 2004 ACS on STM (Continued)
 RE(16) OF 247

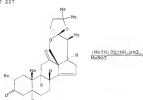


RE(16) OF 247

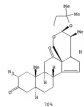


NOTE: epigallocatechin

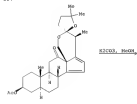
RE(17) OF 247



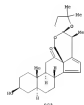
14 ANSWER 7 OF 38 CAGNACACT COPYRIGHT 2004 ACS on STM (Continued)
 RE(17) OF 247



RE(18) OF 247

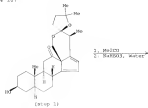


RE(18) OF 247

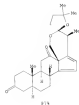


16 ATTACH 7 OF 38 CRASHACT CONFIDENTIAL 2009 ABC OR BITE (CONTINUED)

83/191 of 287

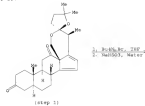


834291 OF 237



NOTE: Jones reagent used stage 2

NE/201 OF 287



14 ANSWER 7 OF 38 CASSEACT COPYRIGHT 2008 ACS on STM (Continued)

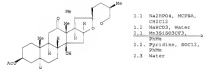
RE(22) OF 287 - REACTION DIAGRAM NOT AVAILABLE

RE(23) OF 207 = REACTION DIAGRAM NOT AVAILABLE

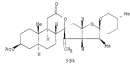
RE(24) OF 257 - REACTION DIAGRAM NOT AVAILABLE

KE(26) OF 227 - REACTION DIAGRAM NOT AVAILABLE

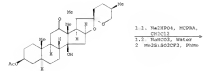
NO(26) OF 207 - 2 STEPS



NSC261 OF 207 - 2 STEPS

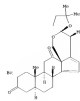


NOTE: 1) Beyer-Villiger oxidn.

$$N(27) \text{ OF } 227 = 2 \text{ STEPS}$$


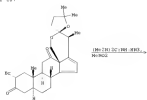
14 ATTORNEY GENERAL'S OFFICE, WASHINGTON, D.C. 20540 (202) 512-2000 (202) 512-2000 (202) 512-2000

834791-00 287

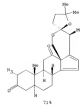


NOTE: * at $p < 0.05$ vs. control

REALLY HOT HOT

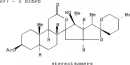


854211 OF 287



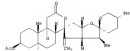
14 ANSWER 7 OF 38 CROSSTACT COPYRIGHT 2004 ACS or STS (Continued)

BX(27) OF 207 - 2 STEPS

[illegible]

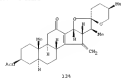
NOTE: 1) Baeyer-Villiger oxidn., 2) stereoselective dyotropic
ISOTOPIZATION

BX(29) 407 207 - 2 6T8P4



2. P209, He31085He3,
c1c4d4w2c1

RE(20) OF 207 - 2 STEPS



14 ANSWER 7 OF 38 CAGNACEA COPYRIGHT 2008 ACS on STM (Continued)

RX(29) OF 267 - 3 STEPS

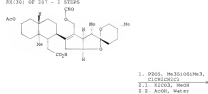


RX(29) OF 267 - 3 STEPS



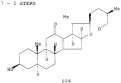
NOTE: 1) Friesel-Crafts reaction, stereoselective

RX(30) OF 267 - 3 STEPS



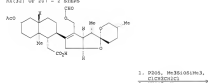
14 ANSWER 7 OF 38 CAGNACEA COPYRIGHT 2008 ACS on STM (Continued)

RX(31) OF 267 - 2 STEPS

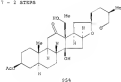


NOTE: 1) Friesel-Crafts reaction, stereoselective

RX(32) OF 267 - 3 STEPS



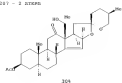
RX(32) OF 267 - 3 STEPS



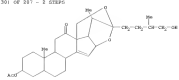
NOTE: 1) Friesel-Crafts reaction, stereoselective

14 ANSWER 7 OF 38 CAGNACEA COPYRIGHT 2008 ACS on STM (Continued)

RX(33) OF 267 - 3 STEPS

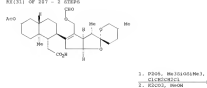


RX(30) OF 267 - 3 STEPS



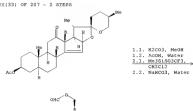
NOTE: 1) Friesel-Crafts reaction, stereoselective, 2) stereoselective

RX(31) OF 267 - 3 STEPS

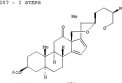


14 ANSWER 7 OF 38 CAGNACEA COPYRIGHT 2008 ACS on STM (Continued)

RX(33) OF 267 - 3 STEPS



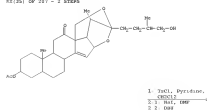
RX(33) OF 267 - 3 STEPS



NOTE: 1) stereoselective

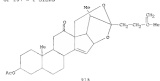
RX(34) OF 267 - REACTION SCHEME NOT AVAILABLE

RX(35) OF 267 - 2 STEPS



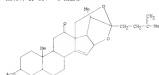
14 ANSWER 7 OF 39 CHEMCAST COPYRIGHT 2008 ACS on STM (Continued)

RE(35) OF 257 - 3 STEPS



RE(36) OF 257 - REACTION DIAGRAM NOT AVAILABLE

RE(37) OF 257 - 3 STEPS



1. 1. H₂SO₄/CH₃CO₂H,
CH₂Cl₂ →
2. 2. NaOAc, MeOH
3. 3. Ph, H₂, AcOH

RE(37) OF 257 - 3 STEPS



NOTE: 2) epimerization, stereoselective

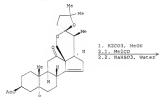
14 ANSWER 7 OF 39 CHEMCAST COPYRIGHT 2008 ACS on STM (Continued)

RE(39) OF 257 - 3 STEPS



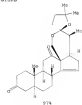
NOTE: 1) epimerization, stereoselective

RE(40) OF 257 - 3 STEPS



1. 1. K₂CO₃, MeOH
2. 2. H₂O, H₂SO₄ →
3. 3. NaHCO₃, MeOH

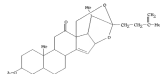
RE(40) OF 257 - 3 STEPS



NOTE: 2) Jones reagent used stage 1

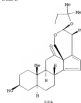
14 ANSWER 7 OF 39 CHEMCAST COPYRIGHT 2008 ACS on STM (Continued)

RE(38) OF 257 - 3 STEPS



1. 1. H₂SO₄/CH₃CO₂H,
CH₂Cl₂ →
2. 2. NaOAc, MeOH
3. 3. Ph, H₂, AcOH

RE(38) OF 257 - 3 STEPS



RE(39) OF 257 - 3 STEPS



1. 1. Ph, H₂, AcOH →
2. 2. K₂CO₃, MeOH

14 ANSWER 7 OF 39 CHEMCAST COPYRIGHT 2008 ACS on STM (Continued)

RE(41) OF 257 - 3 STEPS



1. 1. H₂SO₄/
2. 2. NaOAc, MeOH →
3. 3. NaHCO₃, MeOH

RE(41) OF 257 - 3 STEPS



NOTE: 1) Jones reagent used stage 1, 2) stereoselective

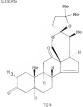
RE(42) OF 257 - 3 STEPS



1. 1. NaHCO₃, MeOH →
2. 2. NaHCO₃, MeOH →
3. 3. NaHCO₃, MeOH

14 ANSWER 7 OF 39 CASHBACK COPYRIGHT 2008 ACS on STM (Continued)

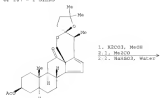
RE(42) OF 217 - 3 STEPS



NOTE: 1) stereochemical

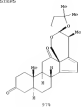
RE(43) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(44) OF 217 - 2 STEPS



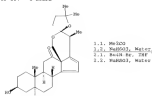
14 ANSWER 7 OF 39 CASHBACK COPYRIGHT 2008 ACS on STM (Continued)

RE(44) OF 217 - 2 STEPS

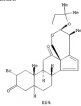


NOTE: 2) Jones reagent used stage 1

RE(45) OF 217 - 2 STEPS



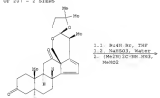
RE(46) OF 217 - 2 STEPS



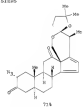
NOTE: 1) Jones reagent used stage 1, 2) stereochemical

14 ANSWER 7 OF 39 CASHBACK COPYRIGHT 2008 ACS on STM (Continued)

RE(46) OF 217 - 3 STEPS



RE(46) OF 217 - 3 STEPS



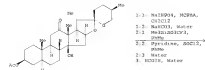
NOTE: 1) stereochemical

RE(47) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(48) OF 217 - REACTION DIAGRAM NOT AVAILABLE

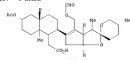
RE(49) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(50) OF 217 - 3 STEPS



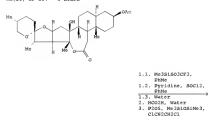
14 ANSWER 7 OF 39 CASHBACK COPYRIGHT 2008 ACS on STM (Continued)

RE(50) OF 217 - 3 STEPS

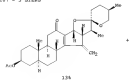


NOTE: 1) Baeyer-Villiger oxid.

RE(51) OF 217 - 3 STEPS



RE(51) OF 217 - 3 STEPS

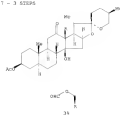


14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RX(51) OF 217 - 3 STEPS

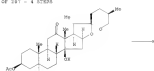


RX(51) OF 217 - 3 STEPS



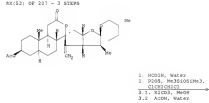
NOTE: 3) Friesel-Crafts reaction, stereoselective

RX(52) OF 217 - 4 STEPS



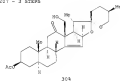
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RX(52) OF 217 - 3 STEPS

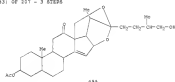


1. H₂O₂, Water
2. H₂O₂, H₂SO₄(H₂O),
CH₂Cl₂/CH₂Cl₂
3. 3. H₂O₂, Water
3.2 AcOH, Water

RX(52) OF 217 - 3 STEPS



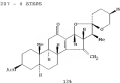
RX(53) OF 217 - 3 STEPS



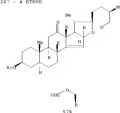
NOTE: 2) Friesel-Crafts reaction, stereoselective, 3) stereoselective

14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RX(53) OF 217 - 4 STEPS



RX(53) OF 217 - 4 STEPS



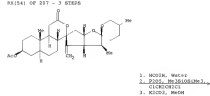
RX(53) OF 217 - 4 STEPS



NOTE: 1) Baeyer-Villiger oxidn., 4) Friesel-Crafts reaction, stereoselective

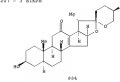
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RX(54) OF 217 - 3 STEPS



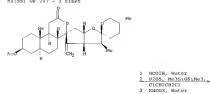
1. H₂O₂, Water
2. H₂O₂, H₂SO₄(H₂O),
CH₂Cl₂/CH₂Cl₂
3. H₂O₂, Water

RX(54) OF 217 - 3 STEPS



NOTE: 2) Friesel-Crafts reaction, stereoselective

RX(55) OF 217 - 3 STEPS



1. H₂O₂, Water
2. H₂O₂, H₂SO₄(H₂O),
CH₂Cl₂/CH₂Cl₂
3. H₂O₂, Water

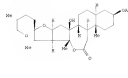
14 ANSWER 7 OF 38 CADDREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(35) OF 217 - 3 STEPS



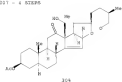
NOTE: 1) Friedel-Crafts reaction, stereoselective

RE(36) OF 217 - 4 STEPS



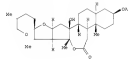
1.1. MeHgI/NO₂F,
PhMe
1.2. Pyridine, SOCl₂,
PhMe
1.3. MeI
1.4. NaOMe, MeOH
1.5. NaOMe, MeOH
1.6. NaOMe, MeOH
1.7. NaOMe, MeOH
1.8. NaOMe, MeOH
1.9. NaOMe, MeOH
1.10. NaOMe, MeOH

RE(37) OF 217 - 4 STEPS



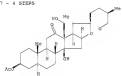
14 ANSWER 7 OF 38 CADDREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(38) OF 217 - 4 STEPS



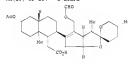
1.1. MeHgI/NO₂F,
PhMe
1.2. Pyridine, SOCl₂,
PhMe
1.3. MeI
1.4. NaOMe, MeOH
1.5. NaOMe, MeOH
1.6. NaOMe, MeOH
1.7. NaOMe, MeOH
1.8. NaOMe, MeOH
1.9. NaOMe, MeOH
1.10. NaOMe, MeOH

RE(39) OF 217 - 4 STEPS



NOTE: 1) Friedel-Crafts reaction, stereoselective

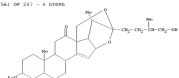
RE(40) OF 217 - 3 STEPS



1. NaOMe, MeOH
2. NaOMe, MeOH
3. NaOMe, MeOH
4. NaOMe, MeOH
5. NaOMe, MeOH
6. NaOMe, MeOH
7. NaOMe, MeOH
8. NaOMe, MeOH
9. NaOMe, MeOH
10. NaOMe, MeOH

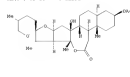
14 ANSWER 7 OF 38 CADDREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(41) OF 217 - 4 STEPS



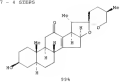
NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective

RE(42) OF 217 - 4 STEPS



1.1. MeHgI/NO₂F,
PhMe
1.2. Pyridine, SOCl₂,
PhMe
1.3. MeI
1.4. NaOMe, MeOH
1.5. NaOMe, MeOH
1.6. NaOMe, MeOH
1.7. NaOMe, MeOH
1.8. NaOMe, MeOH
1.9. NaOMe, MeOH
1.10. NaOMe, MeOH

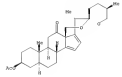
RE(43) OF 217 - 4 STEPS



NOTE: 1) Friedel-Crafts reaction, stereoselective

14 ANSWER 7 OF 38 CADDREACT COPYRIGHT 2008 ACS on STM (Continued)

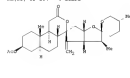
RE(44) OF 217 - 3 STEPS



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective

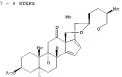
RE(45) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(46) OF 217 - 4 STEPS



1. NaOMe, MeOH
2. NaOMe, MeOH
3. NaOMe, MeOH
4. NaOMe, MeOH
5. NaOMe, MeOH
6. NaOMe, MeOH
7. NaOMe, MeOH
8. NaOMe, MeOH
9. NaOMe, MeOH
10. NaOMe, MeOH

RE(47) OF 217 - 4 STEPS

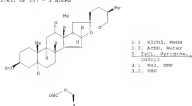


NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective

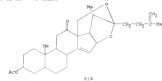
RE(48) OF 217 - REACTION DIAGRAM NOT AVAILABLE

14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(43) OF 217 - 3 STEPS

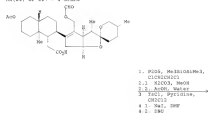


RE(43) OF 217 - 3 STEPS



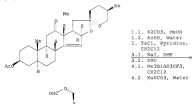
NOTE: 1) Stereoselective

RE(44) OF 217 - 4 STEPS

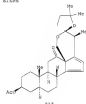


14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(44) OF 217 - 4 STEPS



RE(44) OF 217 - 4 STEPS



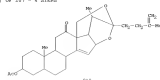
NOTE: 1) Stereoselective

RE(45) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(46) OF 217 - REACTION DIAGRAM NOT AVAILABLE

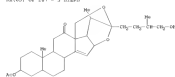
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(44) OF 217 - 4 STEPS



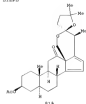
NOTE: 1) Favors-Curtius reaction, stereoselective, 2) stereoselective

RE(45) OF 217 - 3 STEPS



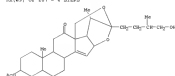
1. TBAI, Pyridine, CH₂Cl₂
2.1. NaH, DMF
2.2. DMF
2.3. Me₂SO/DMF
3.1. Me₂SO, Water
3.2. NaHCO₃, Water

RE(45) OF 217 - 3 STEPS



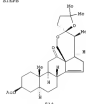
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(45) OF 217 - 4 STEPS



1. TBAI, Pyridine, CH₂Cl₂
2.1. NaH, DMF
2.2. DMF
2.3. Me₂SO/DMF
3.1. Me₂SO, Water
3.2. NaHCO₃, Water
4. NaH, Me₂SO

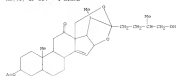
RE(46) OF 217 - 4 STEPS



NOTE: 1) Regioselective, stereoselective

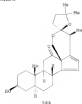
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(70) OF 217 - 4 STEPS



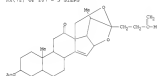
1. TeCl₄, Pyridine, CH₂Cl₂
- 2.1. Me₂, DMF
- 2.2. Me₂, DMF
- 2.3. Me₂, DMF
- 3.1. Me₂, DMF
- 3.2. Me₂, DMF
4. EtOAc, MeOH

RE(70) OF 217 - 4 STEPS



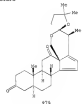
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(72) OF 217 - 3 STEPS



- 1.1. Me₂, DMF, CH₂Cl₂
- 1.2. Me₂, DMF, Me₂
- 2.1. Me₂, Me₂
- 2.2. Me₂, Me₂
- 3.1. Me₂, Me₂

RE(72) OF 217 - 3 STEPS

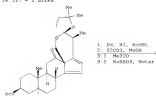


NOTE: 3) Jones reagent used stage 1

RE(72) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(74) OF 217 - REACTION DIAGRAM NOT AVAILABLE

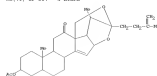
RE(75) OF 217 - 3 STEPS



1. Et₃N, Me₂, Me₂
2. Et₃N, Me₂
3. Et₃N, Me₂

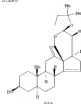
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(71) OF 217 - 3 STEPS



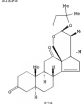
- 1.1. Me₂, DMF, CH₂Cl₂
- 1.2. Me₂, DMF, Me₂
2. Et₃N, Me₂
3. Et₃N, Me₂

RE(71) OF 217 - 3 STEPS

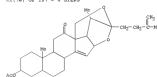
NOTE: 2) pyridine, Me₂, Me₂

14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(70) OF 217 - 3 STEPS

NOTE: 1) pyridine, Me₂, Me₂; 2) Jones reagent used stage 1

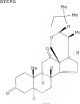
RE(76) OF 217 - 4 STEPS



- 1.1. Me₂, DMF, CH₂Cl₂
- 1.2. Me₂, DMF, Me₂
2. Et₃N, Me₂
3. Et₃N, Me₂
4. Et₃N, Me₂
5. Et₃N, Me₂

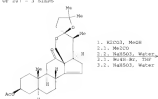
14 ANSWER 7 OF 38 CADDREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(6) OF 217 - 4 STEPS



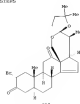
NOTE: 1) epimerization, stereoselective, 4) Jones reagent used stage 1

RE(7) OF 217 - 3 STEPS



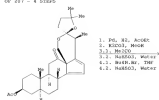
14 ANSWER 7 OF 38 CADDREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(7) OF 217 - 3 STEPS



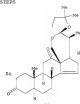
NOTE: 1) Jones reagent used stage 1, 3) stereoselective

RE(8) OF 217 - 4 STEPS



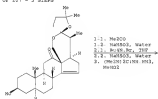
14 ANSWER 7 OF 38 CADDREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(8) OF 217 - 4 STEPS

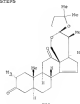


NOTE: 1) epimerization, stereoselective, 3) Jones reagent used stage 1, 4) stereoselective

RE(9) OF 217 - 3 STEPS



RE(9) OF 217 - 3 STEPS



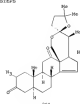
NOTE: 1) Jones reagent used stage 1, 3) stereoselective

14 ANSWER 7 OF 38 CADDREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(9) OF 217 - 4 STEPS



RE(9) OF 217 - 4 STEPS



NOTE: 1) Jones reagent used stage 1, 3) stereoselective

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

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RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

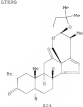
RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 217 - REACTION DIAGRAM NOT AVAILABLE

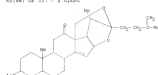
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(65) OF 337 - 3 STEPS



NOTE: 1) Jones reagent used stage 1, 3) stereoselective

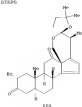
RE(66) OF 337 - 4 STEPS



1.3. Me3SiOAcF,
CH2Cl2
1.8. NaOAc, MeOH
2.2. NaOAc, MeOH
3.2. NaOAc, MeOH
4.4. NaOAc, MeOH
5.2. NaOAc, MeOH
6.2. NaOAc, MeOH

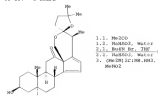
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(66) OF 337 - 4 STEPS



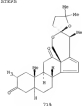
NOTE: 3) Jones reagent used stage 1, 4) stereoselective

RE(67) OF 337 - 3 STEPS



1.3. Me3SiOAcF,
CH2Cl2
1.8. NaOAc, MeOH
2.2. NaOAc, MeOH
3.2. NaOAc, MeOH
4.4. NaOAc, MeOH
5.2. NaOAc, MeOH
6.2. NaOAc, MeOH

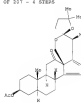
RE(67) OF 337 - 3 STEPS



NOTE: 1) Jones reagent used stage 1, 2) stereoselective

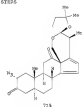
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(68) OF 337 - 4 STEPS



1. K2CO3, MeOH
2.1. MeOH
2.2. NaOAc, MeOH
3.2. NaOAc, MeOH
4.4. NaOAc, MeOH
5.2. NaOAc, MeOH
6.2. NaOAc, MeOH

RE(68) OF 337 - 4 STEPS



NOTE: 2) Jones reagent used stage 1, 3) stereoselective

RE(69) OF 337 - REACTION DIAGRAM NOT AVAILABLE

RE(70) OF 337 - REACTION DIAGRAM NOT AVAILABLE

RE(71) OF 337 - REACTION DIAGRAM NOT AVAILABLE

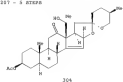
RE(72) OF 337 - REACTION DIAGRAM NOT AVAILABLE

RE(73) OF 337 - 4 STEPS

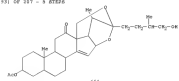


14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(73) OF 337 - 4 STEPS

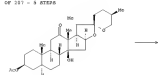


RE(73) OF 337 - 4 STEPS



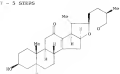
NOTE: 2) Baeyer-Villiger oxid., 4) Friesel-Crafts reaction, stereoselective, 5) stereoselective

RE(74) OF 337 - 4 STEPS



14 ANSWER 7 OF 38 CASHBACK COPYRIGHT 2008 ACS on STM (Continued)

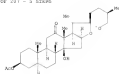
RE(94) OF 217 - 5 STEPS



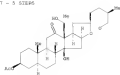
939

NOTE: 1) Baeyer-Villiger oxim., 4) Friesel-Crafts reaction, stereoselective

RE(95) OF 217 - 5 STEPS



RE(96) OF 217 - 5 STEPS

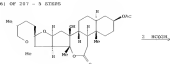


939

NOTE: 1) Baeyer-Villiger oxim., 4) Friesel-Crafts reaction, stereoselective

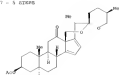
14 ANSWER 7 OF 38 CASHBACK COPYRIGHT 2008 ACS on STM (Continued)

RE(96) OF 217 - 5 STEPS



3. REDUCE

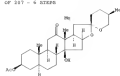
RE(97) OF 217 - 5 STEPS



NOTE: 3) Friesel-Crafts reaction, stereoselective, 4) stereoselective

RE(97) OF 217 - REACTION DEADEND NOT AVAILABLE

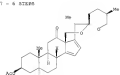
RE(98) OF 217 - 4 STEPS



3. REDUCE

14 ANSWER 7 OF 38 CASHBACK COPYRIGHT 2008 ACS on STM (Continued)

RE(99) OF 217 - 4 STEPS



939

NOTE: 1) Baeyer-Villiger oxim., 4) Friesel-Crafts reaction, stereoselective, 5) stereoselective

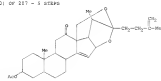
RE(99) OF 217 - REACTION DEADEND NOT AVAILABLE

RE(100) OF 217 - 4 STEPS



1. HOSHR, Water
2. HOSHR, Me2CO, NaOH
3.1. HOSHR, MeOH
3.2. HOSHR, MeOH
4. HOSHR, Pyridine, DMSO
5.1. HOSHR, DMSO
5.2. HOSHR, DMSO

RE(100) OF 217 - 4 STEPS

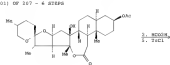


939

NOTE: 2) Friesel-Crafts reaction, stereoselective, 3) stereoselective

14 ANSWER 7 OF 38 CASHBACK COPYRIGHT 2008 ACS on STM (Continued)

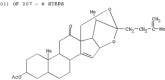
RE(101) OF 217 - 4 STEPS



3. REDUCE

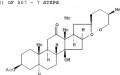
4. HOSHR

RE(101) OF 217 - 4 STEPS



NOTE: 3) Friesel-Crafts reaction, stereoselective, 4) stereoselective

RE(102) OF 217 - 7 STEPS



3. REDUCE

4. HOSHR

RE(102) OF 217 - 7 STEPS

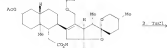


939

NOTE: 1) Baeyer-Villiger oxim., 4) Friesel-Crafts reaction, stereoselective, 5) stereoselective

14 ANSWER 7 OF 38 CAGNACT COPYRIGHT 2004 ACS on STM (Continued)

RE(103) OF 267 - 5 STEPS

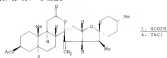


RE(103) OF 267 - 5 STEPS



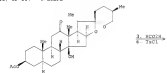
NOTE: 1) Friesel-Crafts reaction, stereoselective, 2) stereoselective

RE(104) OF 267 - 4 STEPS



14 ANSWER 7 OF 38 CAGNACT COPYRIGHT 2004 ACS on STM (Continued)

RE(104) OF 267 - 4 STEPS

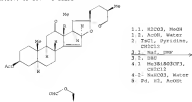


RE(104) OF 267 - 4 STEPS



NOTE: 1) Sauerbrey-Williger reaction, 2) Friesel-Crafts reaction, stereoselective, 3) stereoselective

RE(107) OF 267 - 5 STEPS



1.1. K2O3, MeOH
 1.2. AcOH, MeOH
 2. TcCl₄, Pyridine, CHCl₃
 3. TcCl₄
 4.1. Me₂SO, MeOH
 4.2. Me₂SO, MeOH
 5. Me₂SO, MeOH

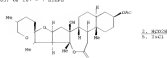
14 ANSWER 7 OF 38 CAGNACT COPYRIGHT 2004 ACS on STM (Continued)

RE(104) OF 267 - 4 STEPS



NOTE: 2) Friesel-Crafts reaction, stereoselective, 3) stereoselective

RE(105) OF 267 - 7 STEPS



RE(105) OF 267 - 7 STEPS



NOTE: 3) Friesel-Crafts reaction, stereoselective, 4) stereoselective

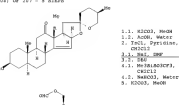
14 ANSWER 7 OF 38 CAGNACT COPYRIGHT 2004 ACS on STM (Continued)

RE(107) OF 267 - 5 STEPS



NOTE: 1) stereoselective, 2) stereoselective, stereoselective

RE(108) OF 267 - 5 STEPS



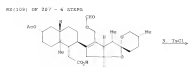
1.1. K2O3, MeOH
 1.2. AcOH, MeOH
 2. TcCl₄, Pyridine, CHCl₃
 3. TcCl₄
 4.1. Me₂SO, MeOH
 4.2. Me₂SO, MeOH
 5. K2O3, MeOH

RE(104) OF 267 - 5 STEPS



NOTE: 1) stereoselective

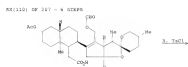
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)



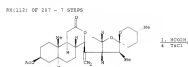
RE(109) OF 267 - 4 STEREO



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective, 3) regioselective, stereoselective



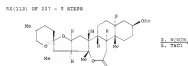
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)



RE(121) OF 267 - 7 STEREO



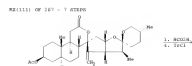
NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective



14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective



RE(111) OF 267 - 7 STEREO

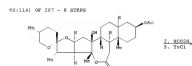


NOTE: 2) Friedel-Crafts reaction, stereoselective, 3) stereoselective, 4) regioselective, stereoselective

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective, 3) regioselective, stereoselective



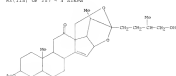
RE(114) OF 267 - 8 STEREO



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective

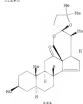
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(115) OF 267 - 5 STEPS



1. TeCl₄, Pyridine, CHCl₃
- 2.1. Me₂, DMF
- 2.2. DMF
- 2.3. Me₂SO, DMF, CHCl₃
- 3.2. NaOAc, Me₂SO
4. Fe, K₂CO₃, AcOH
5. K₂CO₃, Me₂SO

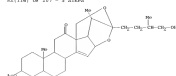
RE(115) OF 267 - 5 STEPS



NOTE: 4) epimerization, stereoselective

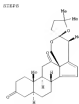
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(116) OF 267 - 5 STEPS



1. TeCl₄, Pyridine, CHCl₃
- 2.1. Me₂, DMF
- 2.2. DMF
- 2.3. Me₂SO, DMF, CHCl₃
- CHCl₃
- 2.2. NaOAc, Me₂SO
4. K₂CO₃, Me₂SO
- 5.1. Me₂SO
- 5.2. NaOAc, Me₂SO

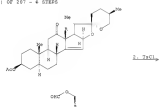
RE(116) OF 267 - 5 STEPS



NOTE: 5) Jones reagent used stage 1

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(117) OF 267 - 4 STEPS

2. TeCl₄

RE(117) OF 267 - 4 STEPS



98%

NOTE: 1) stereoselective; 5) epimerization, stereoselective

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

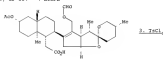
RE(118) OF 267 - 4 STEPS



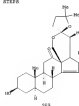
97%

NOTE: 1) stereoselective; 5) Jones reagent used stage 1

RE(119) OF 267 - 7 STEPS

2. TeCl₄

RE(119) OF 267 - 7 STEPS

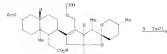


94%

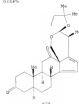
NOTE: 1) Perkin-Elmer reaction, stereoselective; 2) stereoselective; 4) epimerization, stereoselective

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(150) OF 267 - 1 STEPS

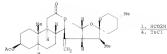
3. TsCl

RE(150) OF 267 - 1 STEPS



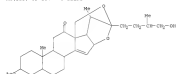
NOTE 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective, 3) Jones reagent used stage 1

RE(151) OF 267 - 8 STEPS

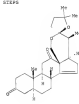
1. H_2SO_4
4. TsCl

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(158) OF 267 - 4 STEPS

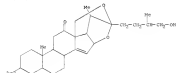
3. TsCl

RE(155) OF 267 - 4 STEPS



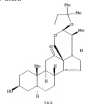
NOTE 1) cycloselective, stereoselective, 6) Jones reagent used stage 1

RE(156) OF 267 - 4 STEPS

3. TsCl

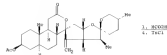
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(151) OF 267 - 8 STEPS

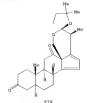


NOTE 2) Friedel-Crafts reaction, stereoselective, 3) stereoselective, 7) regiospecific, stereoselective

RE(152) OF 267 - 8 STEPS

1. H_2SO_4
4. TsCl

RE(153) OF 267 - 8 STEPS



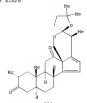
NOTE: 2) Friedel-Crafts reaction, stereoselective, 3) stereoselective, 8) Jones reagent used stage 1

RE(153) OF 267 - REACTION DIAGRAM NOT AVAILABLE

RE(154) OF 267 - REACTION DIAGRAM NOT AVAILABLE

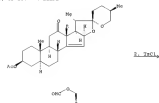
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(156) OF 267 - 4 STEPS

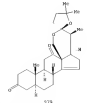


NOTE: 3) Jones reagent used stage 1, 4) stereoselective

RE(157) OF 267 - 1 STEPS

3. TsCl 

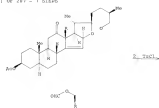
RE(157) OF 267 - 1 STEPS



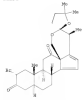
NOTE: 1) stereoselective, 5) regiospecific, stereoselective, 7) Jones reagent used stage 1

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(128) OF 267 - 1 STEPS

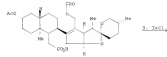


RE(129) OF 267 - 1 STEPS



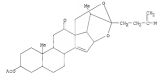
NOTE: 1) stereoselective, 2) Jones reagent used stage 1, 3) stereoselective

RE(130) OF 267 - 4 STEPS



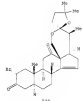
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(131) OF 267 - 5 STEPS



1.1. Me3SiOAc, Me3SiOAc
1.2. NaHCO3, Me3SiOAc
2. Ph. Br. AcOH
3. K2CO3, Me3SiOAc
4.1. NaHCO3, Me3SiOAc
4.2. NaHCO3, Me3SiOAc
5.1. NaHCO3, Me3SiOAc
5.2. NaHCO3, Me3SiOAc

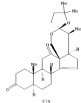
RE(132) OF 267 - 5 STEPS



NOTE: 1) stereoselective, 2) Jones reagent used stage 1, 3) stereoselective

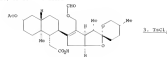
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(133) OF 267 - 4 STEPS

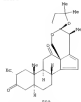


NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective, 3) stereoselective, 4) Jones reagent used stage 1, 5) stereoselective

RE(134) OF 267 - 4 STEPS



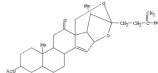
RE(135) OF 267 - 4 STEPS



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective, 3) Jones reagent used stage 1, 4) stereoselective

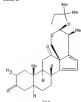
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(136) OF 267 - 5 STEPS



1.1. Me3SiOAc, Me3SiOAc
1.2. NaHCO3, Me3SiOAc
2. Ph. Br. AcOH
3. K2CO3, Me3SiOAc
4.1. NaHCO3, Me3SiOAc
4.2. NaHCO3, Me3SiOAc
5.1. NaHCO3, Me3SiOAc
5.2. NaHCO3, Me3SiOAc

RE(137) OF 267 - 5 STEPS



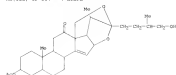
NOTE: 1) Jones reagent used stage 1, 2) stereoselective

RE(138) OF 267 - FUNCTION DIAGRAM NOT AVAILABLE

RE(139) OF 267 - FUNCTION DIAGRAM NOT AVAILABLE

14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(125) OF 267 - 7 STEPS

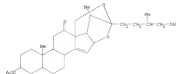
1. TiCl_4

RE(126) OF 267 - 7 STEPS



NOTE: 4) epigallocatechin, stereoselective, 4) Jones reagent used stage 1, 7) stereoselective

RE(126) OF 267 - 7 STEPS

1. TiCl_4

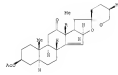
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(127) OF 267 - 4 STEPS



NOTE: 1) stereoselective, 3) epigallocatechin, stereoselective, 7) Jones reagent used stage 1, 4) stereoselective

RE(128) OF 267 - 8 STEPS

2. TiCl_4 

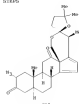
RE(128) OF 267 - 8 STEPS



NOTE: 1) stereoselective, 4) Jones reagent used stage 1, 7) stereoselective

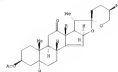
14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(126) OF 267 - 7 STEPS



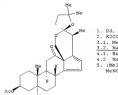
NOTE: 5) Jones reagent used stage 1, 4) stereoselective

RE(127) OF 267 - 8 STEPS

2. TiCl_4 

14 ANSWER 7 OF 39 CASREACT COPYRIGHT 2004 ACS on STM (Continued)

RE(128) OF 267 - 5 STEPS



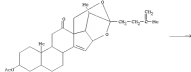
1. D4, D2, DMSO
2. K2CO3, MeOH
3.1. MeOH
3.2. NaOH, MeOH
4.1. NaOH, MeOH
4.2. NaOH, MeOH
5. (CH3)2CO, MeOH
MeOH

RE(128) OF 267 - 5 STEPS



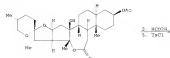
NOTE: 1) epigallocatechin, stereoselective, 2) Jones reagent used stage 1, 4) stereoselective

RE(140) OF 267 - 4 STEPS



14 ANSWER 7 OF 38 CAGNEY COPYRIGHT 2008 ACS on STM (Continued)

RE(141) OF 267 - 5 STEPS

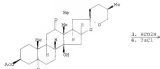


RE(142) OF 267 - 9 STEPS



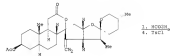
NOTE: 3) Friesel-Crafts reaction, stereoselective, 4) stereoselective, 4) Jones reagent used stage 1

RE(143) OF 267 - 10 STEPS



14 ANSWER 7 OF 38 CAGNEY COPYRIGHT 2008 ACS on STM (Continued)

RE(145) OF 267 - 9 STEPS

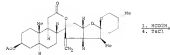


RE(146) OF 267 - 9 STEPS



NOTE: 2) Friesel-Crafts reaction, stereoselective, 3) stereoselective, 3) stereoselective, 3) Jones reagent used stage 1

RE(146) OF 267 - 9 STEPS



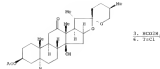
14 ANSWER 7 OF 38 CAGNEY COPYRIGHT 2008 ACS on STM (Continued)

RE(143) OF 267 - 10 STEPS



NOTE: 3) Baeyer-Villiger oxim., 4) Friesel-Crafts reaction, stereoselective, 5) stereoselective, 5) stereoselective, 5) Jones reagent used stage 1

RE(144) OF 267 - 10 STEPS



RE(144) OF 267 - 10 STEPS



NOTE: 1) Baeyer-Villiger oxim., 4) Friesel-Crafts reaction, stereoselective, 5) stereoselective, 5) Jones reagent used stage 1

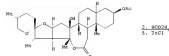
14 ANSWER 7 OF 38 CAGNEY COPYRIGHT 2008 ACS on STM (Continued)

RE(146) OF 267 - 9 STEPS



NOTE: 2) Friesel-Crafts reaction, stereoselective, 3) stereoselective, 4) Jones reagent used stage 1, 5) stereoselective

RE(147) OF 267 - 10 STEPS



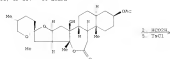
RE(147) OF 267 - 10 STEPS



NOTE: 3) Friesel-Crafts reaction, stereoselective, 4) stereoselective, 4) stereoselective, 4) stereoselective, 4) Jones reagent used stage 1

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(168) OF 267 - 10 STEPS

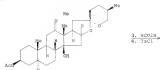


RE(168) OF 267 - 10 STEPS



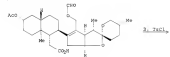
NOTE: 3) Friesel-Crafts reaction, stereoselective; 4) stereoselective; 5) stereoselective, stereoselective; 11) diene reagent used stage 1, 10) stereoselective

RE(168) OF 267 - 11 STEPS



14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(171) OF 267 - 9 STEPS

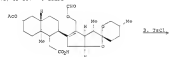


RE(171) OF 267 - 9 STEPS



NOTE: 1) Friesel-Crafts reaction, stereoselective; 2) stereoselective; 3) stereoselective, stereoselective; 4) stereoselective; 5) diene reagent used stage 1, 6) stereoselective

RE(171) OF 267 - 9 STEPS



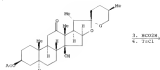
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(169) OF 267 - 11 STEPS



NOTE: 1) Baeyer-Villiger oxim., 4) Friesel-Crafts reaction, stereoselective; 5) stereoselective; 6) stereoselective, stereoselective; 11) diene reagent used stage 1

RE(170) OF 267 - 11 STEPS



RE(170) OF 267 - 11 STEPS



NOTE: 1) Baeyer-Villiger oxim., 4) Friesel-Crafts reaction, stereoselective; 5) stereoselective; 6) stereoselective, stereoselective; 11) diene reagent used stage 1, 12) stereoselective

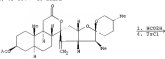
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(172) OF 267 - 9 STEPS



NOTE: 1) Friesel-Crafts reaction, stereoselective; 2) stereoselective; 3) stereoselective, stereoselective; 4) stereoselective; 5) diene reagent used stage 1, 6) stereoselective

RE(173) OF 267 - 10 STEPS



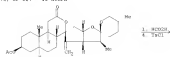
RE(173) OF 267 - 10 STEPS



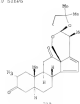
NOTE: 1) Friesel-Crafts reaction, stereoselective; 2) stereoselective; 3) stereoselective, stereoselective; 4) stereoselective; 5) diene reagent used stage 1, 6) stereoselective

14 ANSWER 7 OF 39 CASHBACK COPIRIGHT 2008 ACS OR STM (Continued)

RE(161) OF 267 - 10 STEPS

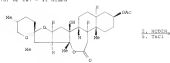


RE(174) OF 267 - 10 STEPS



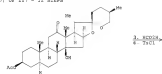
NOTE: 1) Friedel-Crafts reaction, stereoselective; 2) stereoselective; 3) Jones reagent used stage 1, 9) stereoselective

RE(176) OF 267 - 11 STEPS

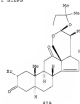


14 ANSWER 7 OF 39 CASHBACK COPIRIGHT 2008 ACS OR STM (Continued)

RE(177) OF 267 - 12 STEPS

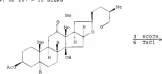


RE(177) OF 267 - 12 STEPS



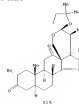
NOTE: 1) Baeyer-Villiger oxidation, 4) Friedel-Crafts reaction, stereoselective; 2) stereoselective; 3) stereoselective; 5) stereoselective; 6) stereoselective; 7) Jones reagent used stage 1, 12) stereoselective

RE(178) OF 267 - 12 STEPS



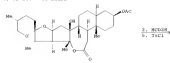
14 ANSWER 7 OF 39 CASHBACK COPIRIGHT 2008 ACS OR STM (Continued)

RE(179) OF 267 - 11 STEPS

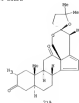


NOTE: 3) Friedel-Crafts reaction, stereoselective; 4) stereoselective; 5) stereoselective; 6) stereoselective; 7) Jones reagent used stage 1, 11) stereoselective

RE(176) OF 267 - 11 STEPS



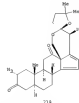
RE(176) OF 267 - 11 STEPS



NOTE: 3) Friedel-Crafts reaction, stereoselective; 4) stereoselective; 5) Jones reagent used stage 1, 10) stereoselective

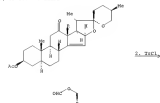
14 ANSWER 7 OF 39 CASHBACK COPIRIGHT 2008 ACS OR STM (Continued)

RE(178) OF 267 - 12 STEPS

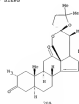


NOTE: 1) Baeyer-Villiger oxidation, 4) Friedel-Crafts reaction, stereoselective; 5) stereoselective; 6) Jones reagent used stage 1, 12) stereoselective

RE(179) OF 267 - 9 STEPS



RE(179) OF 267 - 9 STEPS

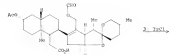


NOTE: 1) stereoselective; 5) stereoselective; 6) stereoselective; 7) Jones reagent used stage 1, 8) stereoselective

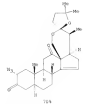
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(183) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(181) OF 267 - 10 STEPS



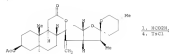
RE(181) OF 267 - 10 STEPS



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective, 3) stereoselective, stereoselective, 4) Jones reagent, third stage, 5, 6) stereoselective

RE(182) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

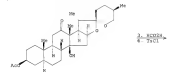
RE(183) OF 267 - 11 STEPS



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11.

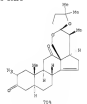
14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(187) OF 267 - 13 STEPS



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13.

RE(187) OF 267 - 13 STEPS



NOTE: 1) Baeyer-Villiger, 2) Friedel-Crafts reaction, stereoselective, 3) stereoselective, 4) stereoselective, stereoselective, 5) Jones reagent, third stage, 6, 7) stereoselective, 8) Jones reagent, third stage, 9, 10) stereoselective, 11) Jones reagent, third stage, 12, 13) stereoselective

RE(188) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(188) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(190) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(191) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(192) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(193) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(194) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(195) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(196) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(197) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(198) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(199) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

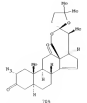
RE(200) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(201) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(202) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

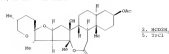
RE(183) OF 267 - 11 STEPS



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective, 3) stereoselective, stereoselective, 4) Jones reagent, third stage, 5, 6) stereoselective

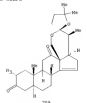
RE(184) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(185) OF 267 - 10 STEPS



1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

RE(185) OF 267 - 10 STEPS



NOTE: 1) Friedel-Crafts reaction, stereoselective, 2) stereoselective, 3) stereoselective, stereoselective, 4) Jones reagent, third stage, 5, 6) stereoselective

RE(186) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

14 ANSWER 7 OF 38 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(203) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(204) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(205) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(206) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(207) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(208) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(209) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(210) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(211) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(212) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(213) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(214) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(215) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(216) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(217) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(218) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(219) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(220) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(221) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(222) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(223) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(224) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(225) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(226) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(227) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(228) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(229) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(230) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(231) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(232) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(233) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(234) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(235) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

RE(236) OF 267 - REACTION SCHEMATIC NOT AVAILABLE

16 ANSWER 8 OF 19 CRACKACT COPYRIGHT 2008 ACS OR ITS

AS 121(62)4 CASPE
 33 80 43 0000 00 00 00

II 34-Fluoro analogues of allopregnanolone and their binding to GABA_A receptors

Signature

CS Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic, Prague, 166 10/6, Czech Rep

60 Collection of C
61/13. 10-16

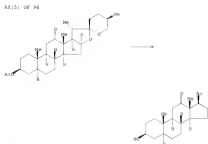
99 Institute of Organic Chemistry and Biochemistry, Academy of Sciences of

On Coach, Royal
Rental

Journal

AB English
JA (S)-ethylmagnesium chloride trifluoroborate (EMST) was used for the preparation of 3a-fluorides (e.g., 3a-fluoro-3a-pregnan-18,20-dione, 3a-fluoro-16a-(methoxycarbonylmethyl)-3a-pregnan-18,20-dione, 3a-fluoro-19a-ethoxymethyl-3a-pregnan-18,20-dione, 3a-fluoro-3a-pregnan-18-one) from the corresponding 3a-alcohols and for the preparation of 3,3-difluoride from 3-ketones (e.g., 3,3-difluoro-3a-pregnan-18-one). Nucleophilic trifluoroborate salt was used for the conversion of an epoxide into 3a-fluoro-19a-hydroxy-3a-pregnan-18-one. The *in vitro* binding of the 3a-fluorides and the corresponding 3a-alcohols to the GABA_A receptor was established using [3H]muscimol and [³H]-tert-butylglycine (2,2,2-trifluoroethanolamine).

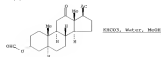
33151 OF 36



NOTE: Literature cited

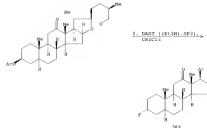
14 ANSWER 9 OF 19 CRYPTACT COPYRIGHT 2009 ACS OR ITS (CONCLUDE)

53471 OK 96



9-24

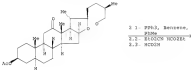
834(75) 047 94 - 2 STEP4



NOTE: 1) literature prepo.

16 ANSWER 8 OF 38 CASEFACT COPYRIGHT 2008 ACS on STM (Continued)

REC(16) OF 96 - 2 STEPS



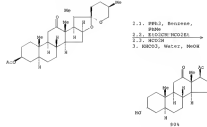
FIX(16) OF 96 = 2 STEPS



NOTE: All illustrations drawn by artist.

14 ANSWER 8 OF 38 CONTACT COPYRIGHT 2008 ACS or STS (Continued)

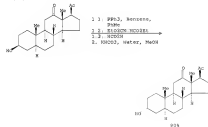
PAGE 04 OF 94 - 3 STEPS



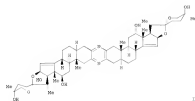
NOTE: 1) literature prepn.

RE CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

PAGE 27 OF 29 - 2 STEPS

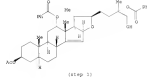


14 ANSWER 9 OF 39 CAGNACCT COPYRIGHT 2008 ACS on STM
 A4 13/10/10 CAGNACCT
 T1 The First Total Synthesis of (Overlaid) Raloxonine H
 A5 Lee, Benjamin; Paine, Philip S.
 O3 Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA
 O4 Organic Letters 2005(18), 3070-3074
 A6 DOI: 10.1021/OL051740D
 O5 American Chemical Society
 O6 copyright
 A4 English
 O2



A6 Raloxonine acetate was converted to ralloxonine H (I) in 14 operations with an average yield per operation of 87%. The overall linear yield was 13%. This compound I is the corrected structure for ralloxonine H by total synthesis.

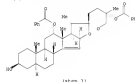
RI(4) OF 76



1. Li, Hg(OAc)₂,
 CH₂Cl₂/CH₂Br₂ →
 2. NaOH, water

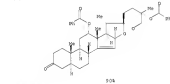
14 ANSWER 9 OF 39 CAGNACCT COPYRIGHT 2008 ACS on STM (Continued)

RI(4) OF 76



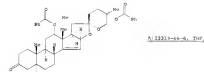
1. Me-methylsulfoxide,
 NaOH, NaOAc, CH₂Cl₂ →
 2. NaOH, water

RI(8) OF 76



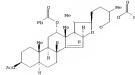
NOTE: mol. eleven used

RI(9) OF 76



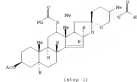
14 ANSWER 9 OF 39 CAGNACCT COPYRIGHT 2008 ACS on STM (Continued)

RI(4) OF 76



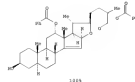
NOTE: Square noted.

RI(7) OF 76



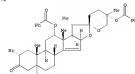
1. RALOXONINE, water
 2. RALOXONINE, water

RI(7) OF 76



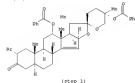
14 ANSWER 9 OF 39 CAGNACCT COPYRIGHT 2008 ACS on STM (Continued)

RI(9) OF 76



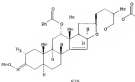
NOTE: other product also detected

RI(10) OF 76



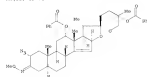
1. (H₂O) 20:100:100,
 NaOH,
 2. RALOXONINE, CH₂Cl₂,
 Pyridine

RI(10) OF 76



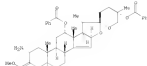
14 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(11) OF 78



EPA-MSDC-TSP

RE(11) OF 78

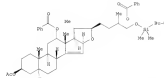


EPA

NOTE: Hemolysis reduction

RE(12) OF 78 - REACTIVED DIAGRAM NOT AVAILABLE

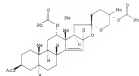
RE(14) OF 78 - 2 STEPS



1.1. NPS-B3D, CHCl₃
 1.2. MeOH, Water
 2.1. CH₂Cl₂, Water
 2.2. NaOH, Water

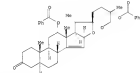
14 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(18) OF 78 - 3 STEPS



1.1. KIO₃, MeOH,
 Water
 1.2. MeOH, Water
 2.1. Hemolysis reduction,
 MeOH, Water
 2.2. NaOH, Water

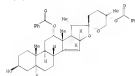
RE(18) OF 78 - 2 STEPS



EPA

NOTE: 2) mol. sieve used

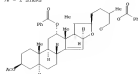
RE(19) OF 78 - 2 STEPS



1.1. Hemolysis reduction,
 MeOH, Water
 1.2. CHCl₃
 1.3. NaOH, Water
 2. 0.34333 mol. Sieve

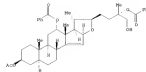
14 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(14) OF 78 - 2 STEPS

ESTROGENOLONE
788

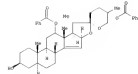
NOTE: 2) Reagent grade.

RE(17) OF 78 - 2 STEPS



1.1. 12, Ph(COO)2,
 Pyridine,
 CHCl₃
 1.2. NaOH, Water
 1.3. KIO₃, MeOH,
 Water
 2.2. MeOH, Water

RE(17) OF 78 - 3 STEPS

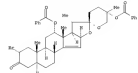


1244

NOTE: 1) Reagent grade.

14 ANSWER 9 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

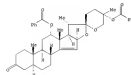
RE(18) OF 78 - 2 STEPS



EPA

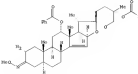
NOTE: 1) mol. sieve used, 2) other product also detected

RE(20) OF 78 - 2 STEPS



1. 8.12119-44-0, TSP
 1.1. 0.00125 mol. Sieve,
 MeOH
 1.2. Hemolysis reduction,
 CHCl₃, Pyridine

RE(20) OF 78 - 2 STEPS

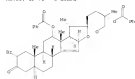


EPA

NOTE: 1) other product also detected

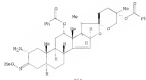
14 ANSWER 9 OF 39 CREDITS COPYRIGHT 2008 ACS on STM (Continued)

RE(21) OF 78 - 2 STEPS



1.1. (CH₃)₂SO-H₂SO, H₂O
 1.2. NaOH, H₂O
 2. H₂O, NaOH, H₂O

RE(21) OF 78 - 2 STEPS



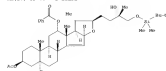
NOTE: 1) Stereoselective reduction

RE(22) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RE(23) OF 78 - REACTION DIAGRAM NOT AVAILABLE

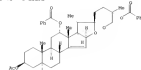
14 ANSWER 9 OF 39 CREDITS COPYRIGHT 2008 ACS on STM (Continued)

RE(27) OF 78 - 3 STEPS



1. Molecular addition, H₂O-H₂O, H₂O, CH₂Cl₂
 2.1. H₂O-H₂O, CH₂Cl₂
 2.2. NaOH, H₂O
 3.1. (CH₃)₂SO-H₂SO, H₂O
 3.2. NaOH, H₂O

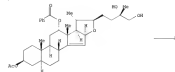
RE(27) OF 78 - 3 STEPS



stereoisomers

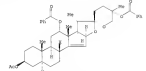
NOTE: 1) Stereoselective, other isomers also detected, overall yield=7% for diastereomers, 53.10 (158); 3) Stereoisomers.

RE(28) OF 78 - 4 STEPS



14 ANSWER 9 OF 39 CREDITS COPYRIGHT 2008 ACS on STM (Continued)

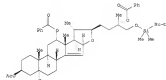
RE(29) OF 78 - 4 STEPS



stereoisomers

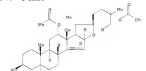
NOTE: 1) Stereoselective, other isomers also detected, overall yield=7% for diastereomers, 53.10 (158); 4) Stereoisomers.

RE(29) OF 78 - 3 STEPS



1.1. H₂O-H₂O, CH₂Cl₂
 1.2. NaOH, H₂O
 2.1. H₂O-H₂O, CH₂Cl₂
 2.2. NaOH, H₂O
 3.1. NaOH, H₂O
 3.2. H₂O, NaOH, H₂O
 3.3. NaOH, H₂O

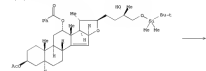
RE(29) OF 78 - 3 STEPS



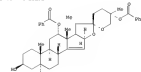
NOTE: 1) Stereoisomers

14 ANSWER 9 OF 39 CREDITS COPYRIGHT 2008 ACS on STM (Continued)

RE(30) OF 78 - 4 STEPS



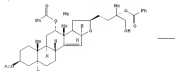
RE(30) OF 78 - 4 STEPS



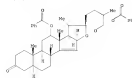
1584

NOTE: 1) Stereoselective, other isomers also detected, overall yield=7% for diastereomers, 53.10 (158); 3) Stereoisomers.

RE(31) OF 78 - 3 STEPS

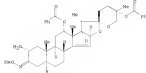


REF(2) OF AB = 2 STEPS

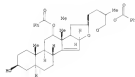


2. K123219-66-6, THF
2.1. $\text{C}_{10}\text{H}_{16}\text{N}_2$ 20:80 HX
HX 90:10
2.2. $\text{C}_{10}\text{H}_{16}\text{N}_2$ -HCl,
CH₂Cl₂, Pyridine
3. DPh₃, Water, THF

BOX 271 OF 78 - 3 STEPS

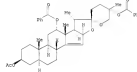
H2B¹ 1) other products also detected, 2) Staudinger reduction

NS(38) GF 78 = 4 STEPS



16 ANSWER 1 OF 18 CASSEACT COPYRIGHT 2018 ACS on STN (Continued)

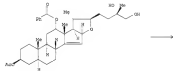
40431 OF 78 - 5 STEPS



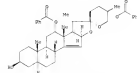
steroidsomers

NOTE: 1) stereoselective, other isomer also detected, overall yield=84% for diastereomers, 55:10 (236):(258), 3) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (258):(259), 5) Suarez could.

NX(44) OF 78 - 5 STEPS



2022.04.28 09:28 - 5. 2022.04.28 09:28



NOTE: 2) stereoselective; other isomer also detected. Overall
yields 70% for diastereomers. 58-10 (75%) (75%) - 5) Ruoxes solid.

14 ASSANGE 9 OF 19 CONTRACT COPYRIGHT 2009 ACTS OR SITE (Copyright)

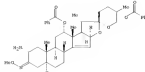
REINHOLD GEORGE - 6 STUDENT

```

1 1 Me-morpholineoxide,
    974H, NaOH,
    CH2Cl2
1 2, NaOH, MeOH
2 1, 2,2,2-trifluoroethanol, THF
2 1, (Me2N)2CO, H2O, HCl,
    MeOH
2 2, MeCOCH2-CH2,
    CH2Cl2, Pyridine
4. 10% MeOH, MeOH, THF

```

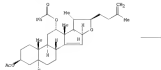
801341 OF 78 - 4 STEPS



NOTE: 1) mol. sieves used, 2) other product also detected, 4) Standing reduction

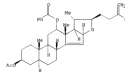
RE(29) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RE(42) OF 38 - REACTED

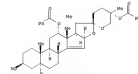


14 ANSWER = OF 38 CONTACT C607(NIGHT 2608 ACS on STD (Continued)

RE(45) OF 78 - 6 STEPS


$$\xrightarrow[2. \text{NaOH(aq) and H}_2\text{O}]{1. \text{NaOH(aq) and H}_2\text{O}}$$

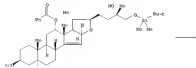
EX(45) OF 78 - 4 STEPS



1064

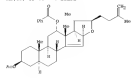
NOTE: 1) stereoselective, other isomer also detected, overall yield=84% for diastereomers, 59:10 (15A):(15B), 3) stereoselective, other isomer also detected, overall yield=74% for diastereomers, 59:10 (15A):(15B), 4) Enaved origin.

EX/66) OF 22 - 5 STEPS



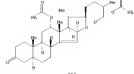
14 ASSANGE 9 OF 19 CONTACT CONFIDENT 2009 ACT OR SITE (CONFIDENTIAL)

BX(44) 00 74 - 3 STEPS



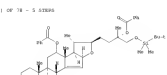
2. ϵ -BaGluHCl
3. barium carbonate

NS1401 547 28 = 2 57625



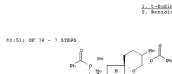
NOTE: 1) stereoselective, other isomer also detected, overall yield=96% for diastereomers, 59:10 (25%):(25%); 3) stereoselective, other isomer also detected, overall yield=87% for diastereomers, 59:10 (25%):(25%); 5) squares oxidn., 7) mol sieves used

881491 CR 78 - 5 5THRS



14 ANSWER 9 OF 38 CONTACT COPYRIGHT 2008 ACS on STN (Continued)

-
- Chemical structure of compound 1, a complex polycyclic molecule with multiple stereocenters and functional groups.

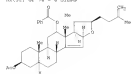


100

NOTE: 2) stereoselective, other isomer also detected, overall
yields 87% for diastereomers, 59:10 (25R):(25S), 8) 2-methyl-2-butanol,
9) mal-mixture used, 7) other product also detected

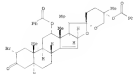
14 ANSWER 9 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(13) OF 78 - 3 STEPS



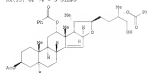
1. 1-**Hydroxyethyl**
2. **Benzoic anhydride**

RE(15) OF 78 - 5 STEPS



NOTE: 1) stereoisomeric, other isomer also detected, overall
purity 97% for diastereomer, 59.10 (158) (158), 3)
stereoisomeric, other isomer also detected, overall
purity 97% for diastereomer, 59.10 (158) (158), 5) **Benzoic anhydride**, 7) mol.
silver used, 8) other product also detected

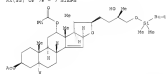
RE(15) OF 78 - 5 STEPS



3.2. **Hydroxyethyl**

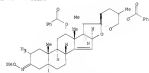
14 ANSWER 9 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

RE(16) OF 78 - 3 STEPS



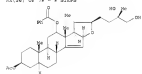
1. **Benzoic anhydride**
2. **Hydroxyethyl**

RE(16) OF 78 - 3 STEPS



NOTE: 1) stereoisomeric, other isomer also detected, overall
purity 97% for diastereomer, 59.10 (158) (158), 3) **Benzoic anhydride**,
5) mol. silver used, 6) other product also detected

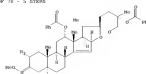
RE(16) OF 78 - 5 STEPS



1. 1-**Hydroxyethyl**
2. **Benzoic anhydride**
3. **Hydroxyethyl**

14 ANSWER 9 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

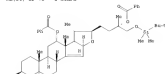
RE(13) OF 78 - 5 STEPS



824

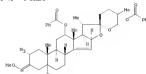
NOTE: 1) **Benzoic anhydride**, 3) mol. silver used, 4) other product also
detected

RE(14) OF 78 - 4 STEPS



3.2. **Hydroxyethyl**

RE(14) OF 78 - 4 STEPS

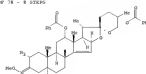


824

NOTE: 1) **Benzoic anhydride**, 4) mol. silver used, 5) other product also
detected

14 ANSWER 9 OF 39 CASREACT COPYRIGHT 2008 ACS on STM (Continued)

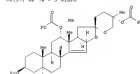
RE(14) OF 78 - 5 STEPS



824

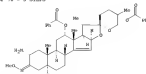
NOTE: 1) stereoisomeric, other isomer also detected, overall
purity 97% for diastereomer, 59.10 (158) (158), 4) **Benzoic anhydride**,
6) mol. silver used, 7) other product also detected

RE(17) OF 78 - 5 STEPS



3.2. **Hydroxyethyl**

RE(17) OF 78 - 5 STEPS

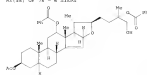


824

NOTE: 1) mol. silver used, 3) other product also detected, 5)
Benzoic anhydride

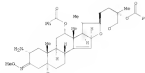
14 ANSWER 9 OF 30 CANDIDATE COPYRIGHT 2004 ACS on STM (Continued)

RE(54) OF 74 - 4 STEPS



3.3. 3H0092-001

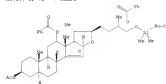
RE(56) OF 74 - 4 STEPS



514

NOTE: 1) Stereoisomers; 3) mol. slaves used; 4) other product also detected; 5) GlaxoSmithKline reduction

RE(59) OF 74 - 7 STEPS



#3.3. 3H0092-001

14 ANSWER 9 OF 30 CANDIDATE COPYRIGHT 2004 ACS on STM (Continued)

RE(61) OF 74 - REACTION DIAGRAM NOT AVAILABLE

RE(61) OF 74 - REACTION DIAGRAM NOT AVAILABLE

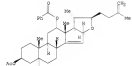
RE(61) OF 74 - REACTION DIAGRAM NOT AVAILABLE

RE(61) OF 74 - REACTION DIAGRAM NOT AVAILABLE

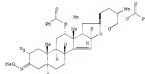
RE(61) OF 74 - REACTION DIAGRAM NOT AVAILABLE

RE(61) OF 74 - REACTION DIAGRAM NOT AVAILABLE

RE(61) OF 74 - 9 STEPS

1. 3-Hydroxy-20-one
2. Steroid reduction
3.3. 3H0092-001

RE(64) OF 74 - 9 STEPS

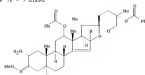


479

NOTE: 1) Stereoisomers; other isomer also detected, overall product for GlaxoSmithKline, 3) mol. slaves used; 4) other product also detected, overall product for GlaxoSmithKline, 5) mol. slaves used; 6) other product also detected, overall product for GlaxoSmithKline, 7) mol. slaves used; 8) other product also detected

14 ANSWER 9 OF 30 CANDIDATE COPYRIGHT 2004 ACS on STM (Continued)

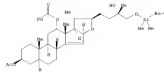
RE(54) OF 74 - 7 STEPS



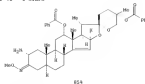
514

NOTE: 1) Stereoisomers; 4) mol. slaves used; 5) other product also detected; 6) GlaxoSmithKline reduction

RE(60) OF 74 - 8 STEPS

1. Steroid reduction
2.3. 3H0092-001

RE(60) OF 74 - 8 STEPS



514

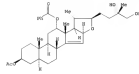
NOTE: 1) Stereoisomers; other isomer also detected, overall product for GlaxoSmithKline, 3) mol. slaves used; 4) other product also detected; 5) GlaxoSmithKline reduction

RE(61) OF 74 - REACTION DIAGRAM NOT AVAILABLE

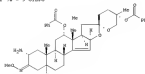
RE(61) OF 74 - REACTION DIAGRAM NOT AVAILABLE

14 ANSWER 9 OF 30 CANDIDATE COPYRIGHT 2004 ACS on STM (Continued)

RE(70) OF 74 - 9 STEPS

1. 3-Hydroxy-20-one
2. Steroid reduction
3.3. 3H0092-001

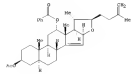
RE(70) OF 74 - 9 STEPS



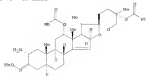
514

NOTE: 1) Stereoisomers; other isomer also detected, overall product for GlaxoSmithKline, 3) mol. slaves used; 4) other product also detected; 5) GlaxoSmithKline reduction

RE(71) OF 74 - 10 STEPS

1. 3-Hydroxy-20-one
2. Steroid reduction
3.3. 3H0092-001

NOTES ON THE CONTRIBUTORS



RE(78) OF 78 - RELATION DIAGRAM NOT AVAILABLE

886741 06 78 - REACTOR DIAGRAM NOT AVAILABLE

RE(75) OF 78 - REACTION DIAGRAM NOT AVAILABLE

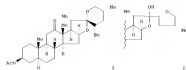
RE(76) OF 78 - REACTION DIAGRAM NOT AVAILABLE

RE(77) OF 78 - REACTION DIAGRAM NOT AVAILABLE

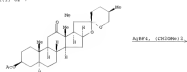
RE(78) OF 78 - REACTION DIAGRAM NOT AVAILABLE
RE-ENT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

IX

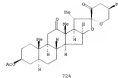
| | |
|----|--|
| AI | (228, 230) - 22 - stereo - 23, 26 - opposite positions |
| BI | Moscow, J. W. J. Jastrzebski, L. |
| CI | Institute of Chemistry, University of Białystok, Białystok, 15-443, Pol. |
| DI | Tetrahedron Letters (1961), 42(14), 3489-3491 |
| FI | CODON: HNSGKZ, LASH 1640-4629 |
| PK | Elsevier Science Ltd. |
| BT | Journal |
| LA | English |
| GE | |



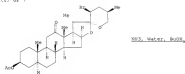
8543 OF 2



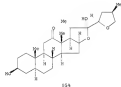
RE(1) CR ?



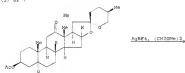
85/25 OF 2



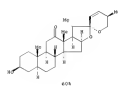
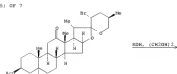
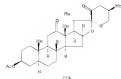
35(2) OF 2



PAGE 2 OF 2



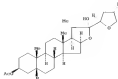
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PAGE 2

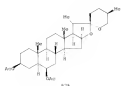


RE(6) CF 2



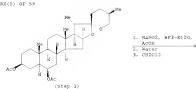
14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

RE(1) OF 59

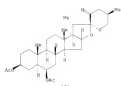


NOTE: stereoselective

RE(5) OF 59



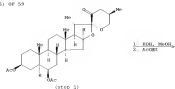
RE(5) OF 59



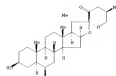
NOTE: stereoselective

14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

RE(6) OF 59

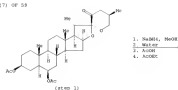


RE(6) OF 59



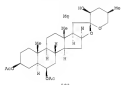
NOTE: stereoselective

RE(7) OF 59



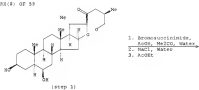
14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

RE(7) OF 59

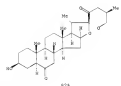


NOTE: stereoselective

RE(8) OF 59

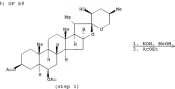


RE(8) OF 59

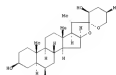


NOTE: stereoselective

RE(9) OF 59

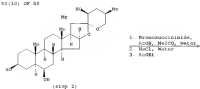


RE(9) OF 59



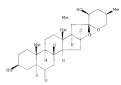
NOTE: stereoselective

RE(10) OF 59



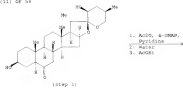
14 ANSWER 11 OF 38 CHARGEST COPYRIGHT 2008 ACS on STN (Continued)

RE(10) OF 53

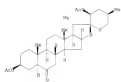


NOTE: stereoselective

RE(11) OF 53



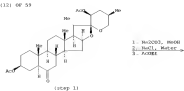
RE(12) OF 53



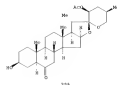
NOTE: stereoselective

14 ANSWER 11 OF 38 CHARGEST COPYRIGHT 2008 ACS on STN (Continued)

RE(12) OF 53

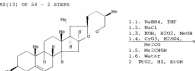


RE(13) OF 53



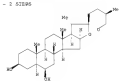
NOTE: stereoselective

RE(13) OF 53 - 2 STEPS



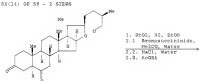
14 ANSWER 11 OF 38 CHARGEST COPYRIGHT 2008 ACS on STN (Continued)

RE(12) OF 53 - 2 STEPS

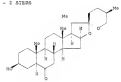


NOTE: 1) stereoselective, 2) stereoselective

RE(14) OF 53 - 2 STEPS



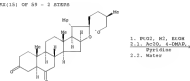
RE(14) OF 53 - 2 STEPS



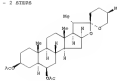
NOTE: 1) stereoselective, 2) stereoselective

14 ANSWER 11 OF 38 CHARGEST COPYRIGHT 2008 ACS on STN (Continued)

RE(14) OF 53 - 2 STEPS

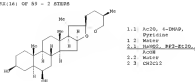


RE(15) OF 53 - 2 STEPS



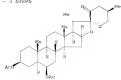
NOTE: 1) stereoselective, 2) stereoselective

RE(14) OF 53 - 2 STEPS



14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

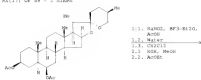
RE(14) OF 59 - 2 STEPS



E94

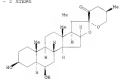
NOTE: 1) Microconfiltrate, 2) Microconfiltrate

RE(17) OF 59 - 2 STEPS



1) 1. NaOH, MP3-BE20,
AcOH
2. H₂O, CH₂Cl₂
3. H₂O, MeOH
4. AcOH

RE(17) OF 59 - 2 STEPS

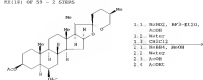


E94

NOTE: 1) Microconfiltrate, 2) Microconfiltrate

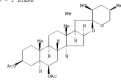
14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

RE(18) OF 59 - 2 STEPS



1. 1. NaOH, MP3-BE20,
AcOH
2. H₂O, CH₂Cl₂
3. H₂O, MeOH
4. AcOH

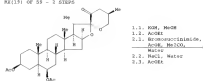
RE(18) OF 59 - 2 STEPS



E94

NOTE: 1) Microconfiltrate, 2) Microconfiltrate

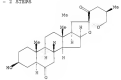
RE(19) OF 59 - 2 STEPS



1. 1. NaOH, MeOH
2. AcOH
3. Microconfiltrate,
AcOH, MeOH
4. H₂O, MeOH
5. H₂O, MeOH
6. AcOH

14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

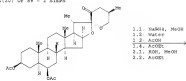
RE(19) OF 59 - 2 STEPS



E94

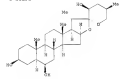
NOTE: 1) Microconfiltrate, 2) Microconfiltrate

RE(20) OF 59 - 2 STEPS



1. 1. NaOH, MeOH
2. H₂O, MeOH
3. AcOH
4. H₂O, MeOH
5. H₂O, MeOH
6. AcOH

RE(20) OF 59 - 2 STEPS

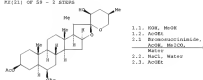


E94

NOTE: 1) Microconfiltrate, 2) Microconfiltrate

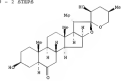
14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

RE(21) OF 59 - 2 STEPS



1. 1. NaOH, MeOH
2. AcOH
3. Microconfiltrate,
AcOH, MeOH
4. H₂O, MeOH
5. H₂O, MeOH
6. AcOH

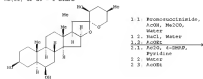
RE(21) OF 59 - 2 STEPS



E94

NOTE: 1) Microconfiltrate, 2) Microconfiltrate

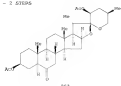
RE(22) OF 59 - 2 STEPS



1. 1. Microconfiltrate,
AcOH, MeOH,
MeOH
2. H₂O, MeOH
3. AcOH
4. H₂O, MeOH
5. H₂O, MeOH
6. AcOH

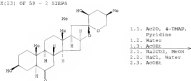
14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

RE(12) OF 59 - 2 STEPS

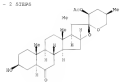


NOTE: 1) stereoselective, 2) stereoselective

RE(13) OF 59 - 2 STEPS



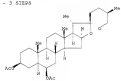
RE(13) OF 59 - 2 STEPS



NOTE: 1) stereoselective, 2) stereoselective

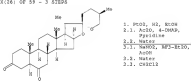
14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

RE(15) OF 59 - 3 STEPS

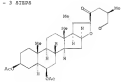


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RE(16) OF 59 - 3 STEPS



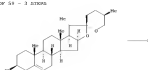
RE(16) OF 59 - 3 STEPS



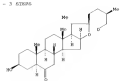
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

RE(14) OF 59 - 3 STEPS

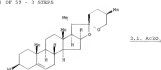


RE(14) OF 59 - 3 STEPS



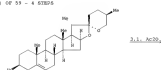
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RE(15) OF 59 - 3 STEPS

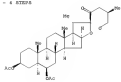


14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

RE(17) OF 59 - 4 STEPS

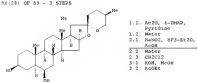


RE(17) OF 59 - 4 STEPS



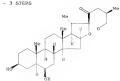
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RE(18) OF 59 - 3 STEPS



14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

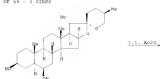
RE(26) OF 53 - 3 STEPS



834

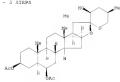
NOTE: 1) Microselective, 2) Microselective, 3) Microselective

RE(29) OF 53 - 3 STEPS



3,3'-AcOAc

RE(29) OF 53 - 3 STEPS

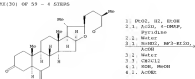


836

NOTE: 1) Microselective, 2) Microselective, 3) Microselective

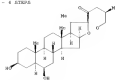
14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

RE(30) OF 53 - 4 STEPS



1. H₂O₂, H₂, EtOH
2.1. AcOAc, 4-1800, Pyridine
2.2. Water
2.3. NaOH, MP3-8120,
3.2. Water
3.3. CH₂Cl₂
4.1. H₂O, MeOH
4.2. AcOAc

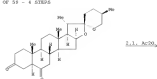
RE(30) OF 53 - 4 STEPS



838

NOTE: 1) Microselective, 2) Microselective, 3) Microselective, 4) Microselective

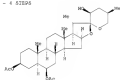
RE(31) OF 53 - 4 STEPS



3,3'-AcOAc

14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

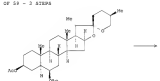
RE(32) OF 53 - 4 STEPS



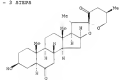
840

NOTE: 1) Microselective, 2) Microselective, 3) Microselective, 4) Microselective

RE(32) OF 53 - 3 STEPS



RE(32) OF 53 - 3 STEPS

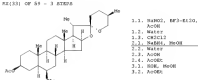


843

NOTE: 1) Microselective, 2) Microselective, 3) Microselective

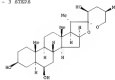
14 ANSWER 11 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

RE(33) OF 53 - 3 STEPS



3.1. H₂O₂, MP3-8120,
AcOAc
3.2. Water
3.3. CH₂Cl₂
3.4. NaOH, MeOH
3.5. Water
3.6. AcOAc
3.7. H₂O, MeOH
3.8. AcOAc

RE(33) OF 53 - 3 STEPS



845

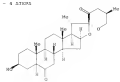
NOTE: 1) Microselective, 2) Microselective, 3) Microselective

RE(34) OF 53 - 4 STEPS



14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STM (Continued)

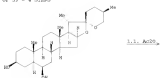
RE(34) OF 53 - 4 STEPS



53A

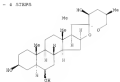
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RE(35) OF 53 - 4 STEPS



5.1. AcOH

RE(36) OF 53 - 4 STEPS

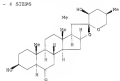


53A

NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STM (Continued)

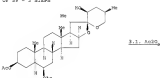
RE(37) OF 53 - 4 STEPS



53A

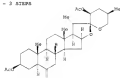
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

RE(38) OF 53 - 3 STEPS



5.1. AcOH

RE(39) OF 53 - 3 STEPS

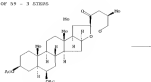


53A

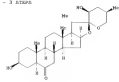
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STM (Continued)

RE(36) OF 53 - 3 STEPS



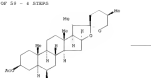
RE(36) OF 53 - 3 STEPS



53A

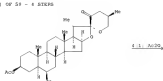
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RE(37) OF 53 - 4 STEPS



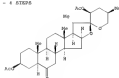
14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STM (Continued)

RE(38) OF 53 - 4 STEPS



5.1. AcOH

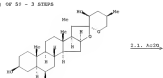
RE(39) OF 53 - 4 STEPS



53A

NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

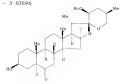
RE(40) OF 53 - 3 STEPS



5.1. AcOH

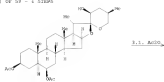
14 ANSWER 11 OF 26 CHARGEACT COPYRIGHT 2008 ACS on STD (Continued)

RE(10) OF 53 - 3 STEPS

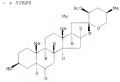


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective

RE(11) OF 53 - 4 STEPS

3.1. Acids

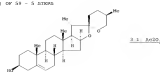
RE(12) OF 53 - 4 STEPS



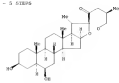
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective

14 ANSWER 11 OF 26 CHARGEACT COPYRIGHT 2008 ACS on STD (Continued)

RE(13) OF 53 - 5 STEPS

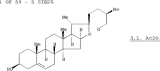
3.3. Acids

RE(14) OF 53 - 5 STEPS



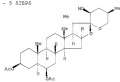
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective

RE(15) OF 53 - 5 STEPS

3.3. Acids

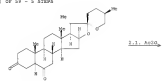
14 ANSWER 11 OF 26 CHARGEACT COPYRIGHT 2008 ACS on STD (Continued)

RE(16) OF 53 - 5 STEPS

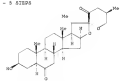


NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective

RE(17) OF 53 - 5 STEPS

3.3. Acids

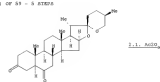
RE(18) OF 53 - 5 STEPS



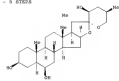
NOTE: 1) stereoselective, 2) stereoselective, 3) stereoselective, 4) stereoselective, 5) stereoselective

14 ANSWER 11 OF 26 CHARGEACT COPYRIGHT 2008 ACS on STD (Continued)

RE(19) OF 53 - 5 STEPS

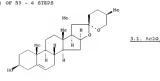
3.3. Acids

RE(20) OF 53 - 5 STEPS



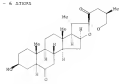
NOTE: 1) stereoselective, 1) stereoselective, 2) stereoselective, 4) stereoselective, 5) stereoselective

RE(21) OF 53 - 6 STEPS

3.3. Acids

14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

RE(45) OF 53 - 4 STEPS



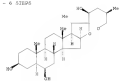
S14

NOTE: 1) Microselective, 2) Microselective, 3) Microselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

RE(47) OF 53 - 4 STEPS

3,3', AcOH

RE(47) OF 53 - 4 STEPS

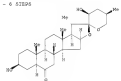


S14

NOTE: 1) Microselective, 2) Microselective, 3) Microselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

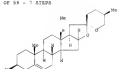
RE(49) OF 53 - 6 STEPS



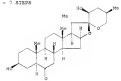
S14

NOTE: 1) Microselective, 2) Microselective, 3) Microselective, 4) stereoselective, 5) stereoselective, 6) stereoselective

RE(50) OF 53 - 7 STEPS

3,3', AcOH

RE(50) OF 53 - 7 STEPS

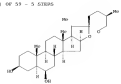


S14

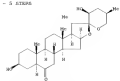
NOTE: 1) Microselective, 2) Microselective, 3) Microselective, 4) stereoselective, 5) stereoselective, 6) stereoselective, 7) stereoselective

14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

RE(46) OF 53 - 5 STEPS

3,3', AcOH

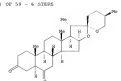
RE(46) OF 53 - 5 STEPS



S14

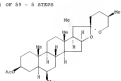
NOTE: 1) Microselective, 2) Microselective, 3) Microselective, 4) stereoselective, 5) stereoselective

RE(48) OF 53 - 6 STEPS

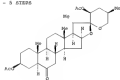
3,3', AcOH

14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

RE(51) OF 53 - 5 STEPS

3,3', AcOH

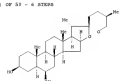
RE(51) OF 53 - 5 STEPS



S14

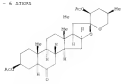
NOTE: 1) Microselective, 2) Microselective, 3) Microselective, 4) stereoselective, 5) stereoselective

RE(52) OF 53 - 6 STEPS

3,3', AcOH
4,5', AcOH

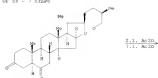
14 ANSWER 11 OF 26 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(51) OF 53 - 6 STEPS

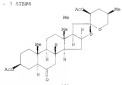


NOTE: 1) Stereosensitive, 2) Stereosensitive, 3) Stereosensitive, 4) Stereosensitive, 5) Stereosensitive, 6) Stereosensitive

RE(53) OF 53 - 7 STEPS



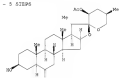
RE(53) OF 53 - 7 STEPS



NOTE: 1) Stereosensitive, 2) Stereosensitive, 3) Stereosensitive, 4) Stereosensitive, 5) Stereosensitive, 6) Stereosensitive, 7) Stereosensitive

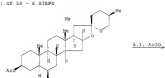
14 ANSWER 11 OF 26 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(55) OF 53 - 5 STEPS

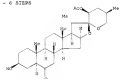


NOTE: 1) Stereosensitive, 2) Stereosensitive, 3) Stereosensitive, 4) Stereosensitive, 5) Stereosensitive

RE(56) OF 53 - 6 STEPS



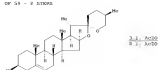
RE(56) OF 53 - 6 STEPS



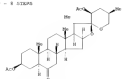
NOTE: 1) Stereosensitive, 2) Stereosensitive, 3) Stereosensitive, 4) Stereosensitive, 5) Stereosensitive, 6) Stereosensitive

14 ANSWER 11 OF 26 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(54) OF 53 - 8 STEPS

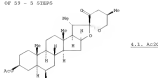


RE(54) OF 53 - 8 STEPS



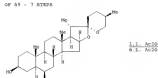
NOTE: 1) Stereosensitive, 2) Stereosensitive, 3) Stereosensitive, 4) Stereosensitive, 5) Stereosensitive, 6) Stereosensitive, 7) Stereosensitive

RE(55) OF 53 - 5 STEPS

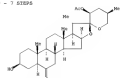


14 ANSWER 11 OF 26 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(57) OF 53 - 7 STEPS



RE(57) OF 53 - 7 STEPS



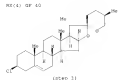
NOTE: 1) Stereosensitive, 2) Stereosensitive, 3) Stereosensitive, 4) Stereosensitive, 5) Stereosensitive, 6) Stereosensitive, 7) Stereosensitive

RE(54) OF 53 - 8 STEPS



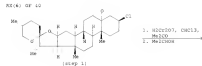
14 ANSWER 13 OF 38 CHARMANT COPYRIGHT 2008 ACS on STN (Continued)

RE(4) OF 63

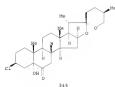


NOTE: stereoselective

RE(4) OF 63

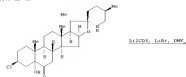


RE(4) OF 63

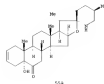


14 ANSWER 13 OF 38 CHARMANT COPYRIGHT 2008 ACS on STN (Continued)

RE(7) OF 63

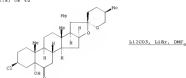


RE(7) OF 63



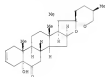
NOTE: regiospecific

RE(8) OF 63



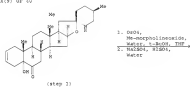
14 ANSWER 13 OF 38 CHARMANT COPYRIGHT 2008 ACS on STN (Continued)

RE(8) OF 63

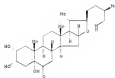


NOTE: regiospecific

RE(9) OF 63



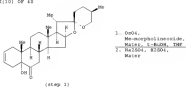
RE(9) OF 63



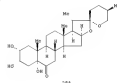
NOTE: stereoselective

14 ANSWER 13 OF 38 CHARMANT COPYRIGHT 2008 ACS on STN (Continued)

RE(10) OF 63



RE(10) OF 63



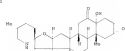
NOTE: stereoselective

RE(11) OF 63



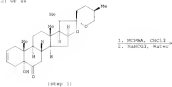
14 ANSWER 13 OF 34 CASREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(11) OF 63

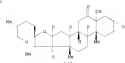


NOTE: steroidalnolide

RE(12) OF 63



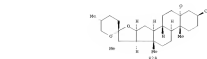
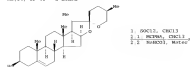
RE(12) OF 63



NOTE: steroidalnolide

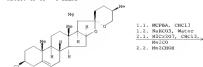
14 ANSWER 13 OF 34 CASREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(14) OF 43 - 2 STEPS

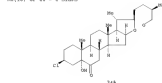


NOTE: 1) steroidalnolide, 2) steroidalnolide

RE(16) OF 43 - 3 STEPS



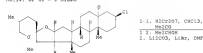
RE(16) OF 43 - 3 STEPS



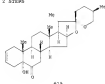
NOTE: 1) steroidalnolide

14 ANSWER 13 OF 34 CASREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(18) OF 43 - 3 STEPS

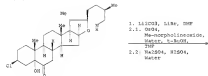


RE(18) OF 43 - 2 STEPS

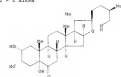


NOTE: 1) epimerization

RE(19) OF 43 - 2 STEPS



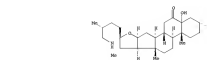
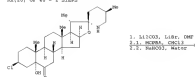
RE(19) OF 43 - 2 STEPS



NOTE: 1) epimerization, 2) steroidalnolide

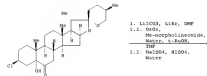
14 ANSWER 13 OF 34 CASREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(20) OF 43 - 2 STEPS

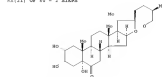


NOTE: 1) epimerization, 2) steroidalnolide

RE(21) OF 43 - 2 STEPS



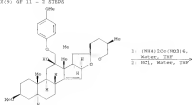
RE(21) OF 43 - 2 STEPS



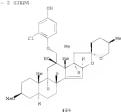
NOTE: 1) epimerization, 2) steroidalnolide

14 ANSWER 14 OF 26 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

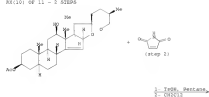
RE(9) OF 11 - 3 STEPS



RE(8) OF 11 - 3 STEPS

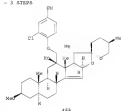


RE(10) OF 11 - 3 STEPS



14 ANSWER 14 OF 26 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

RE(11) OF 11 - 3 STEPS

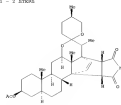


NOTE: 1) stereoselective

RE ENCL 76 THERE ARE 76 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

14 ANSWER 14 OF 26 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

RE(10) OF 11 - 3 STEPS



NOTE: 2) stereoselective; 14 Abaz

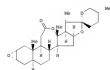
RE(11) OF 11 - 3 STEPS



14 ANSWER 15 OF 26 CHARACTER COPYRIGHT 2008 ACS on STN

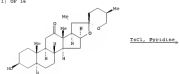
RE(11) OF 11 - 3 STEPS

15110191. COMBRET
21 Apuleia and spectroscopic characterization of 25(R)-12,26-
dihydroxy-3a-epiandrosterone-3-one and 12,19-oxalones
A2 Rodriguez, Caridad M. Kobilar, Wasmuth, Francisco Coll; Rodier, Isabel
Cabrera, Martinez, Carlos E. Hesi, Romero, Esther M. Alonso, Aguilu,
Liliana Ramirez; Rega-Garlin, Robert Naga
CS Laboratorio de Principios Naturales, Facultad de Quimica, Universidad de la
Habana, Habana, 1999, Cuba
50 Mexico CONIC, Simposio Quimico (1999), 36(2), 107-110
INDEX ACQUA (1997) 105-1063
58 Centro Nacional de Investigaciones Cientificas
57 Journal
1A Spanish
61



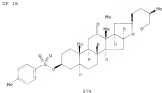
AB Preparation of trisaccharide episteroids, (25R)-12,26-dihydroxy-
3a-epiandrosterone-3-one and (25R)-12,26-dihydroxy-3a-epiandro-
sterone-3-one-12-oxone (25R)-12,26-dihydroxy-3a-epiandrosterone-
3-one-12-oxone (25R)-12,26-dihydroxy-3a-epiandrosterone-3-one-12-oxone
AC1, the simultaneous functioning of steps 8 and 9 was achieved obtaining
25,26-epoxy-12a-oxalones 2 in 71% yield. During the
cleavage of oxalones ring, of 25R-epiandrosterone with perbenzoic acid in
acetic acid, (25R)-12,26-dihydroxy-3a-epiandrosterone-3-one-12-oxone
episteroid-12-oxone in 43% yield was obtained.

RE(1) OF 16

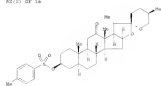


14 ANSWER 15 OF 26 CHARGES COPYRIGHT 2004 ACS on STN (Continued)

RE(1) OF 14

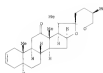


RE(2) OF 14



1. 14hr, 151003, DMF

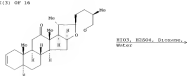
RE(3) OF 14



NOTE: reflux

14 ANSWER 15 OF 26 CHARGES COPYRIGHT 2004 ACS on STN (Continued)

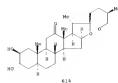
RE(3) OF 14



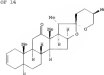
1. 14hr, 151003, DMF

2. 100°C, 151003, DMF

RE(3) OF 14



RE(4) OF 14

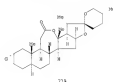


1. 14hr, 151003, DMF

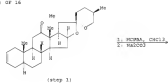
2. 100°C, 151003, DMF

14 ANSWER 15 OF 26 CHARGES COPYRIGHT 2004 ACS on STN (Continued)

RE(4) OF 14



RE(4) OF 14

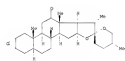


1. 14hr, 151003, DMF

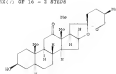
2. 100°C, 151003, DMF

(step 1)

RE(4) OF 14



RE(7) OF 14 - 2 STEPS

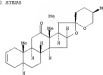


1. 14hr, 151003, DMF

2. 100°C, 151003, DMF

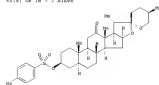
14 ANSWER 15 OF 26 CHARGES COPYRIGHT 2004 ACS on STN (Continued)

RE(7) OF 14 - 2 STEPS



NOTE: 2) reflux

RE(8) OF 14 - 2 STEPS

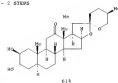


1. 14hr, 151003, DMF

2. 100°C, 151003, DMF

3. 100°C, 151003, DMF

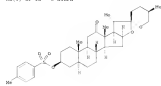
RE(8) OF 14 - 2 STEPS



NOTE: 3) reflux

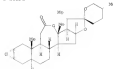
14 ANSWER 15 OF 38 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(9) OF 14 - 3 STEPS



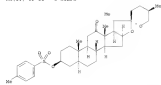
1. LiBr, LiIO3, DMF
 2. MeCN, CHCl3 →

RE(9) OF 14 - 3 STEPS



NOTE: 1) reflux

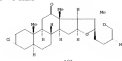
RE(10) OF 14 - 3 STEPS



1. LiBr, LiIO3, DMF
 2. MeCN, CHCl3 →
 3. MeOH

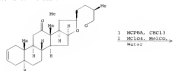
14 ANSWER 15 OF 38 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(10) OF 14 - 3 STEPS



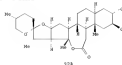
NOTE: 1) reflux

RE(11) OF 14 - 3 STEPS

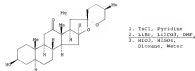


1. MeCN, CHCl3
 2. MeOH, MeCN →
 3. MeOH

RE(11) OF 14 - 3 STEPS



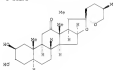
RE(12) OF 14 - 3 STEPS



1. TaCl5, Pyridine
 2. LiBr, LiIO3, DMF
 3. MeOH, MeCN →
 4. MeOH, MeCN
 5. MeOH, MeCN

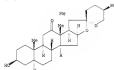
14 ANSWER 15 OF 38 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(12) OF 14 - 3 STEPS



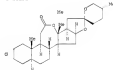
NOTE: 1) reflux

RE(12) OF 14 - 3 STEPS



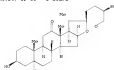
1. TaCl5, Pyridine
 2. LiBr, LiIO3, DMF
 3. MeCN, CHCl3

RE(13) OF 14 - 3 STEPS



NOTE: 1) reflux

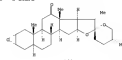
RE(14) OF 14 - 3 STEPS



1. TaCl5, Pyridine
 2. LiBr, LiIO3, DMF
 3. MeCN, CHCl3
 4. MeOH

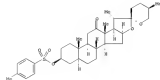
14 ANSWER 15 OF 38 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(14) OF 14 - 3 STEPS



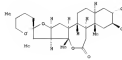
NOTE: 1) reflux

RE(15) OF 14 - 3 STEPS



1. LiBr, LiIO3, DMF
 2. MeCN, CHCl3 →
 3. MeOH, MeCN
 4. MeOH

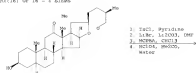
RE(15) OF 14 - 3 STEPS



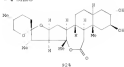
NOTE: 1) reflux

14 ANSWER 15 OF 36 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(14) OF 14 - 4 STOPS



RE(14) OF 14 - 4 STOPS



NOTE: 3) initial

RE-ENT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

14 ANSWER 16 OF 36 CASREACT COPYRIGHT 2008 ACS on STN

AN

136 (1237), CASREACT

11 Simple and convenient method for the synthesis of AB(11)-3-hydroxy, 4,6- and 4,6,9(11)-triacetates by selective

dehydrogenation of 3-hydroxy-12-ketosteroids

RE Sengupta, Komondor Sengupta, Banerjee, Bhattacharyya, Ghoshal

Jahn, Witten

Department of Chemistry, Faculty of Science, Massachusetts Institute of Technology,

Boston, MA 02139, United States

10 Chemistry Letters (1995), (12), 1207-1208

COCOD, CHCl₃, 1996-1997

99 Chemical Society of Japan

97

9A

10 Reagents can be selectively dehydrogenated to the corresponding

AB(11)-3-hydroxyacetate, 4,6- and 4,6,9(11)-tri-

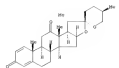
acetates by the treatment of 3,3-dimethyl-5,6-diacetoxystereoids

(100) with a variety of solvents.

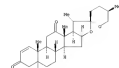
RE(1) OF 3



RE(1) OF 3



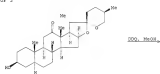
RE(1) OF 3



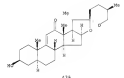
NOTE: 384 overall

14 ANSWER 14 OF 36 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(2) OF 3

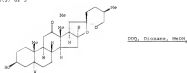


RE(2) OF 3



NOTE: 384 overall

RE(2) OF 3



RE(2) OF 3



NOTE: 384 overall

14 ANSWER 14 OF 36 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE-ENT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

Page 2 of 2



83(2) OF 15



Page 16 of 16

PAGE 16 OF 18

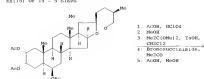


RE(6) OF 16 = 2 STEPS

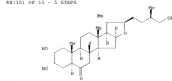


14 PAGE 19 OF 39 EXTRACT COPYRIGHT 2009 ACS 44.37M (DOI:10.1021/acs.chem.1c00001)

EX(15) CAP 15 - 5 STEPS



参考文献: [1] 王德明, 王德成. 中国城市人口空间均衡与区域可持续发展. 北京: 中国人口出版社, 2004.



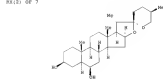
NOTE: 1) 4 H. OXIDE. 2) 30 MIN. HYDROXIDE. 3) 2 H. 4) 45 MIN. 5) 30 MIN. WATER.

RE.CNT ? THERE ARE ? CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT



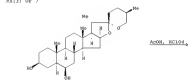
14 ANSWER 19 OF 38 CASREACT COPYRIGHT 2008 ACS on 5/18 (Continued)

88/21 OF 2



NOTE: 30 HCN, 10 deg

88(2) OF 2



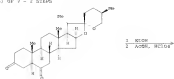
RE(3) OF ?



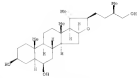
WORK: 4 H. 20-24-25. 1 ATM. COIN. NO.

14 ABSTRACT 19 OF 29 CHEMABSTRACT COPYRIGHT 2008 ACS on STM (Continued)

RE(5) OF 9 - 2 STEPS



RE(5) OF 7 - 2 STEPS



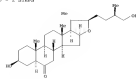
NOTE: 1) 4 H, OXIDE R2, 2) 4 H, 10-deg., 3. ADM, OXIDE R2, 2) 45 MIN, 10-deg.

RE(6) OF 7 - 2 STEPS



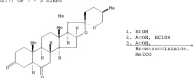
14 ABSTRACT 19 OF 29 CHEMABSTRACT COPYRIGHT 2008 ACS on STM (Continued)

RE(6) OF 7 - 2 STEPS

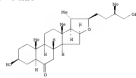


NOTE: 1) 4 H, 10-deg., 3. ADM, OXIDE R2, 2) 45 MIN, 10-deg.

RE(7) OF 7 - 2 STEPS



RE(7) OF 7 - 2 STEPS



NOTE: 1) 4 H, OXIDE R2, 2) 4 H, 10-deg., 3. ADM, OXIDE R2, 2) 45 MIN, 10-deg.

RE-CHT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

14 ABSTRACT 10 OF 28 CHEMABSTRACT COPYRIGHT 2008 ACS on STM

AB 1511416 CHEMABSTRACT

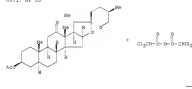
T2 INTERPOLAR PRODUCT RYDING: THE FIRST TOTAL SYNTHESIS OF CEPHALOTRIN 1, THE MOST ANGIOGENIC OF HETEROCYCLES 6, AND THE HIGHLY ANGIOGENIC HETEROCYCLES 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 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996, 997, 998, 999, 1000.

AD LACROIX, DOMINIQUE D. - HET, CHEMABSTRACT, NAGARAJAN, RAJESH, P. L.;
 OJ JOURNAL OF CHEMISTRY, PURDUE UNIVERSITY, WEST LAFAYETTE, IN, 47907, 2004
 OJ JOURNAL OF THE AMERICAN CHEMICAL SOCIETY (2004), 126(4), 886-707
 OJ DOI: 10.1021/ja030548g
 OJ JOURNAL
 OJ ENGLISH

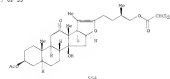
* STRUCTURE DEBARBAR TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Characterization of the extremely potent cell growth inhibitor cephalotrin 1 and two hybrid analogs, cephalotrin 2 (1) and 2 (2), have been achieved. 1 is highly active in the 40 cell line human tumor panel of the National Cancer Institute. The most remarkable of cephalotrin 2 was efficiently synthesized from cephalotrin 1 in 10% yield over 10 steps. Removal of a key phenolic group in cephalotrin 2 (1) and 2 (2) promotes its elimination, leading to the formation of the 2,4-diol in the 2,4-diol 1. Cephalotrin 2 (1) and 2 (2) are an application of a method for directed steps, coupling of the cephalotrin and cephalotrin components.

RE(1) OF 55

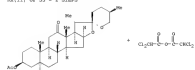


RE(2) OF 55

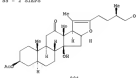


14 ABSTRACT 10 OF 28 CHEMABSTRACT COPYRIGHT 2008 ACS on STM (Continued)

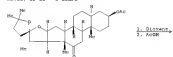
RE(11) OF 55 - 2 STEPS



RE(11) OF 55 - 2 STEPS



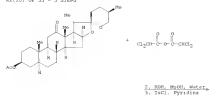
RE(12) OF 55 - 2 STEPS



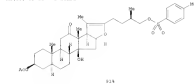
NOTE: 1) 4 H, 10-deg.

14 ANSWER 10 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(10) OF 55 - 3 STEPS



RE(10) OF 55 - 3 STEPS

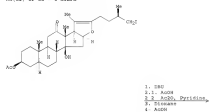


RE(14) OF 55 - 4 STEPS

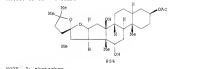


14 ANSWER 10 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

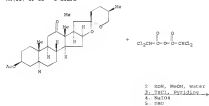
RE(14) OF 55 - 4 STEPS



RE(18) OF 55 - 4 STEPS

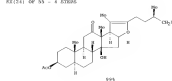


RE(15) OF 55 - 5 STEPS

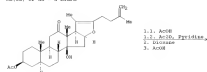


14 ANSWER 10 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

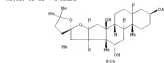
RE(14) OF 55 - 4 STEPS



RE(15) OF 55 - 5 STEPS



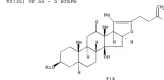
RE(15) OF 55 - 5 STEPS



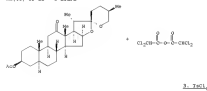
NOTE: 3) photochem.

14 ANSWER 10 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

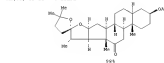
RE(15) OF 55 - 5 STEPS



RE(18) OF 55 - 4 STEPS

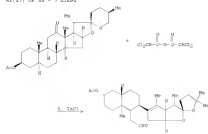


RE(18) OF 55 - 4 STEPS



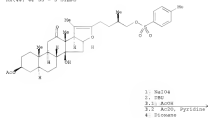
14 ANSWER 10 OF 38 CHEMREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(47) OF 55 - 3 STEPS



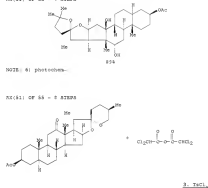
NOTE: 7) photochem.

RE(48) OF 55 - 5 STEPS

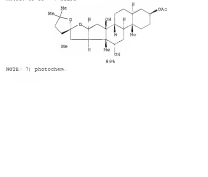


14 ANSWER 10 OF 38 CHEMREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(49) OF 55 - 3 STEPS



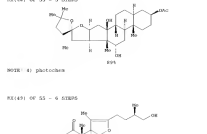
RE(50) OF 55 - 8 STEPS



NOTE: 7) photochem.

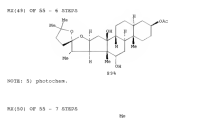
14 ANSWER 10 OF 38 CHEMREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(51) OF 55 - 5 STEPS



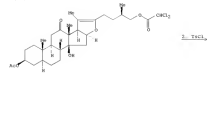
NOTE: 5) photochem.

RE(52) OF 55 - 6 STEPS



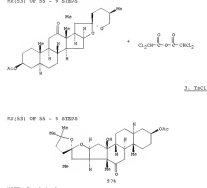
NOTE: 5) photochem.

RE(53) OF 55 - 7 STEPS

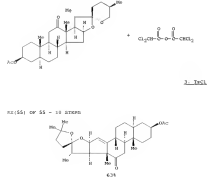


14 ANSWER 10 OF 38 CHEMREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(54) OF 55 - 3 STEPS



RE(55) OF 55 - 3 STEPS



NOTE: 7) photochem.

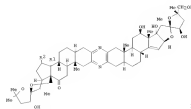
RE(56) OF 55 - 11 STEPS



NOTE: 7) photochem.

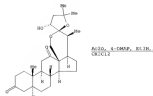
RE: CHT 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RECORD

| | | | | |
|----|---|-----------|---------------|------------|
| LA | ANNOBIS 21 OF 1 | CYBERCAST | COMPENST 2008 | ACN OR NTH |
| AN | 126/9365 | COMCAST | | |
| AI | An Efficient Protocol for the Synthesis of Unsymmetrical Pyrimidines: Total | | | |
| AT | Synthesis of Dihydropyrimidinone 1 | | | |
| AT | Gao, Chunyang; Huo, Shu; Sankar, Pochu, D. L., Roy, Michael R. | | | |
| CS | Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA | | | |
| NO | Journal of the American Chemical Society (1996), 118(43), | | | |
| | 18472-18473 | | | |
| | CODEN JACSCT; ISSN 0002-7063 | | | |
| PR | American Chemical Society | | | |
| ST | Journal | | | |
| LA | English | | | |



A8. Reaction of a 1:1 mixture of α -aminoacetic acid and α -oxalacetate together with either polyvinylpyrrolidone or sodium-D-10 in the presence of 16 mol% dibutyltin dichloride in benzene at reflux affords azaya. pyrazines in very good yield. The new method provides substantially higher yields of azaya. pyrazines than the Beckmann-Schick pyrazine synthesis. The present communication details the application of this method to the synthesis of 2-substituted azaya. pyrazines. 2 is a member of the exceptionally potent tetraaromatic pyrazine anticancer agent cephalostatins 1 (2): R₁R₂ = boodil. Testing of compound 2 (R₁ = R₂ = H) at the National Cancer Institute revealed that the differential cytotoxicity and potent antitumor activity of 2 is closely approximated those of the natural reference compound 1 (R₁R₂ = boodil).

RE(4) OF 39 - REACTION DIAGRAM NOT AVAILABLE
RE(5) OF 39



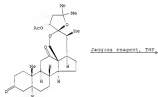
14 ANSWER 21 OF 24 CONTACT COPYRIGHT 2008 AOL on BTN (Continued)

Page 5 of 29

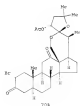


00225- 854040801402154

Page 6 of 39



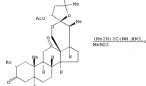
Page 6 of 29



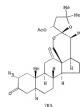
NOTE: storage@ctave

14 ANSWER 21 OF 38 CASHREACT COPYRIGHT 2004 ACS on STN (Continued)

83(7) of 39



83(7) 46 39

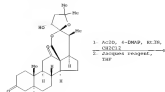


NOTE: stereoselective

RE(10) 00 35 - REACTION OLASPM NOT AVAILABLE

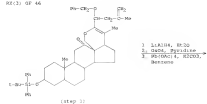
RE:12; CP 32 - REACTION DIAGRAM NOT AVAILABLE

RE(18) OF 39 = 2 STEPS

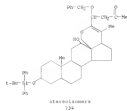


14 ANSWER 11 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

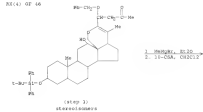
RE(3) OF 46



RE(3) OF 46

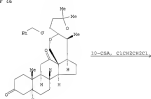


RE(4) OF 46

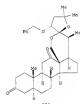


14 ANSWER 12 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

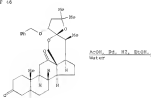
RE(4) OF 46



RE(4) OF 46

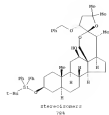


RE(7) OF 46

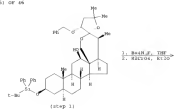


14 ANSWER 13 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

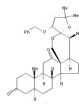
RE(4) OF 46



RE(5) OF 46

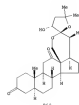


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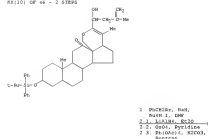


14 ANSWER 14 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

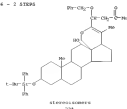
RE(7) OF 46



RE(10) OF 46 - 2 STEPS

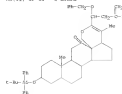


RE(10) OF 46 - 2 STEPS



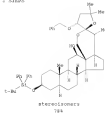
14 ANSWER 11 OF 38 CHARMACT COPYRIGHT 2008 ACS on STM (Continued)

RE(11) OF 44 - 2 STEPS



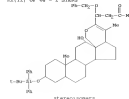
- 1.1. 1,4-DHA, EtOAc
- 1.2. 1,4-DHA, Pyridine
- 2.1. 1,4-DHA, EtOAc
- 2.2. 1,4-DHA, EtOAc

RE(12) OF 44 - 2 STEPS

STEREOLISOMER
794

14 ANSWER 12 OF 38 CHARMACT COPYRIGHT 2008 ACS on STM (Continued)

RE(12) OF 44 - 2 STEPS



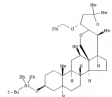
- 1.1. 1,4-DHA, EtOAc
- 1.2. 1,4-DHA, EtOAc
- 2.1. 1,4-DHA, EtOAc
- 2.2. 1,4-DHA, EtOAc

RE(12) OF 44 - 2 STEPS



795

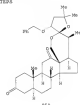
RE(13) OF 44 - 2 STEPS



- 1.1. 1,4-DHA, EtOAc
- 1.2. 1,4-DHA, EtOAc
- 2.1. 1,4-DHA, EtOAc
- 2.2. 1,4-DHA, EtOAc

14 ANSWER 22 OF 38 CHARMACT COPYRIGHT 2008 ACS on STM (Continued)

RE(13) OF 44 - 2 STEPS



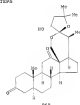
854

RE(14) OF 44 - 2 STEPS



1. 1,4-DHA, EtOAc
2. 1,4-DHA, EtOAc

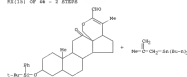
RE(14) OF 44 - 2 STEPS



855

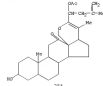
14 ANSWER 32 OF 38 CHARMACT COPYRIGHT 2008 ACS on STM (Continued)

RE(15) OF 44 - 2 STEPS



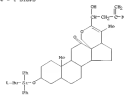
1. 1,4-DHA, EtOAc
2. 1,4-DHA, EtOAc
3. 1,4-DHA, EtOAc

RE(15) OF 44 - 2 STEPS



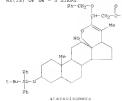
796

RE(17) OF 44 - 2 STEPS



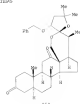
14 ANSWER 11 OF 24 CHEMREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(14) OF 44 - 3 STEPS



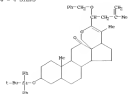
- 1.1. Methyl, Et2O
- 1.2. 10-CMA, OXCL12
- 2.1.1. $\text{BuOH}, \text{F}, \text{TMF}$
- 2.2.1. $\text{KSCN}, \text{Et}_2\text{O}$
3. 10-CMA, CINCORREL

RE(15) OF 44 - 3 STEPS



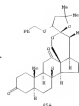
14 ANSWER 12 OF 24 CHEMREACT COPYRIGHT 2004 ACS on STN (Continued)

RE(16) OF 44 - 4 STEPS

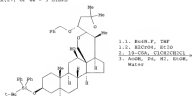


RE(18) OF 44 - 4 STEPS

1. 1.1. $\text{BuOH}, \text{F}, \text{TMF}$
- 1.2. $\text{KSCN}, \text{Et}_2\text{O}$
- 1.3. $\text{Ph(OH)}, \text{KSCN}, \text{Benzene}$
- 2.1.1. $\text{Methyl}, \text{Et}_2\text{O}$
- 2.2.1. $\text{10-CMA}, \text{OXCL12}$
- 3.1. $\text{BuOH}, \text{F}, \text{TMF}$
- 3.2. $\text{KSCN}, \text{Et}_2\text{O}$
4. 10-CMA, CINCORREL



RE(17) OF 44 - 3 STEPS

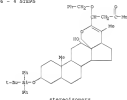


14 ANSWER 12 OF 24 CHEMREACT COPYRIGHT 2004 ACS on STN (Continued)

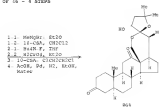
RE(17) OF 44 - 3 STEPS



RE(19) OF 44 - 4 STEPS



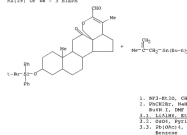
RE(18) OF 44 - 4 STEPS



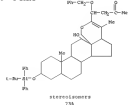
- 1.1. Methyl, Et2O
- 1.2. 10-CMA, OXCL12
- 2.1. $\text{BuOH}, \text{F}, \text{TMF}$
- 2.2.1. $\text{KSCN}, \text{Et}_2\text{O}$
3. 10-CMA, CINCORREL
4. $\text{BuOH}, \text{F}, \text{TMF}, \text{Et}_2\text{O}, \text{KSCN}$

14 ANSWER 12 OF 24 CHEMREACT COPYRIGHT 2004 ACS on STN (Continued)

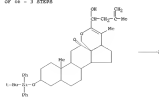
RE(18) OF 44 - 3 STEPS



RE(19) OF 44 - 3 STEPS

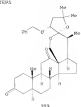


RE(20) OF 44 - 3 STEPS

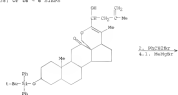


14 ANSWER 12 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

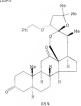
RE(37) OF 46 - 5 STEPS



RE(38) OF 46 - 6 STEPS

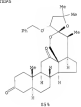


RE(39) OF 46 - 6 STEPS

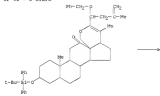


14 ANSWER 12 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

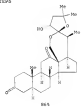
RE(40) OF 46 - 7 STEPS



RE(41) OF 46 - 5 STEPS

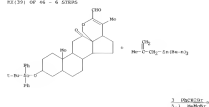


RE(42) OF 46 - 5 STEPS

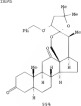


14 ANSWER 12 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

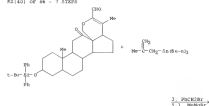
RE(39) OF 46 - 6 STEPS



RE(40) OF 46 - 6 STEPS

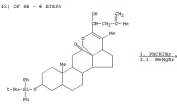


RE(41) OF 46 - 7 STEPS

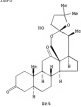


14 ANSWER 12 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

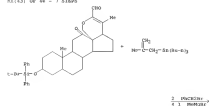
RE(42) OF 46 - 6 STEPS



RE(43) OF 46 - 6 STEPS

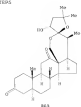


RE(43) OF 46 - 7 STEPS

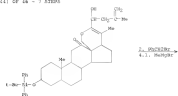


14 ANSWER 11 OF 38 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

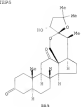
RE(43) OF 44 - 3 STEPS



RE(44) OF 44 - 3 STEPS

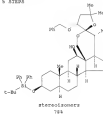


RE(44) OF 44 - 3 STEPS



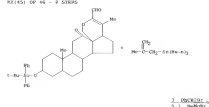
14 ANSWER 12 OF 38 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

RE(44) OF 44 - 3 STEPS

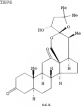
steroids
944

14 ANSWER 12 OF 38 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

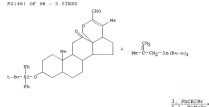
RE(45) OF 44 - 3 STEPS

3. 100%
5. 1. 100%

RE(45) OF 44 - 3 STEPS

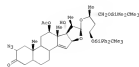


RE(46) OF 44 - 3 STEPS

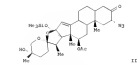
3. 100%
5. 1. 100%

14 ANSWER 13 OF 38 CHARACTER COPYRIGHT 2008 ACS on STN

AN 123,94144 0000000
 SI Bismarck Tidal Reptiles of (v)-Ophiostoma 7, (v)-Ophiostoma 11,
 and (v)-Ophiostoma 8
 AS Cheng, Zuo Shu Hui, Rong L. L., Kim, Seung-Ho, Park, P. S.
 CS Department of Chemistry, Pusan University, Pusan, 605-030, S.K.
 Journal of the American Chemical Society (1999), 121(40),
 10175-8
 CORDS JANCZY (1999) 1000-1001
 OF Chemical
 SA English
 SI



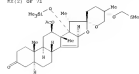
I



II

15 Reaction of a 1:1 mixture of steroids I and II with sodium
 hypochlorite produces a mixture of three triene-3-one pyranes
 after cleavage of the pinene group. Two of these materials are
 identical to natural ophiostatin II and ophiostatin I and the third
 product is shown to have the structure of ophiostatin B.

RE(2) OF 71

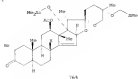


(step 1)

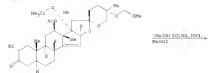
1. Jones reagent,
THF
2. NaOH

14 ANSWER 12 OF 26 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

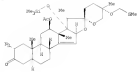
RE(2) OF 71



RE(4) OF 71



RE(6) OF 71

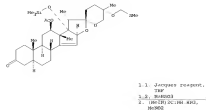


NOTE: chemoselective, alternative reaction conditions/mixt gave lower yield

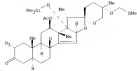
RE(8) OF 71 - REACTION DIAGRAM NOT AVAILABLE

14 ANSWER 13 OF 26 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(12) OF 71 - 3 STOPS



RE(13) OF 71 - 3 STOPS



NOTE: 2) chemoselective, alternative reaction conditions/mixt gave lower yield

RE(15) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(16) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(17) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(18) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(19) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(20) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(21) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(22) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(23) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(24) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(25) OF 71 - REACTION DIAGRAM NOT AVAILABLE

14 ANSWER 22 OF 26 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(26) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(27) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(28) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(29) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(30) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(31) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(32) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(33) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(34) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(35) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(36) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(37) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(38) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(39) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(40) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(41) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(42) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(43) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(44) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(45) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(46) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(47) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(48) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(49) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(50) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(51) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(52) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(53) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(54) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(55) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(56) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(57) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(58) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(59) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(60) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(61) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(62) OF 71 - REACTION DIAGRAM NOT AVAILABLE

14 ANSWER 23 OF 26 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(63) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(64) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(65) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(66) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(67) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(68) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(69) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(70) OF 71 - REACTION DIAGRAM NOT AVAILABLE

RE(71) OF 71 - REACTION DIAGRAM NOT AVAILABLE

14 ANSWER 14 OF 26 CASREACT COPYRIGHT 2008 ACS OR STN (Continued)

RE(14) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(18) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(19) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(20) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(21) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(22) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(23) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(25) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(26) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(27) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(28) OF 24 - REACTION DIAGRAM NOT AVAILABLE
 RE(29) OF 24 - REACTION DIAGRAM NOT AVAILABLE

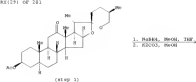
14 ANSWER 15 OF 26 CASREACT COPYRIGHT 2008 ACS OR STN

122-9173 CASREACT
 11 Goshima and Hagiwara: Activity Of Stereometrical Ru-Steroidal Pyrenones
 Related to the Optically Active Natural Product Ophiopogonin 1
 10 Hagiwara, Clayton H.; Smith, Stephen C.
 05 Department of Chemistry, University of California, Berkeley, CA, 94720,
 USA
 00 Journal of Organic Chemistry (1994), 59(22), 6920-29
 0000 CASREF 1500 0022-1263
 01 Journal
 0A English
 01

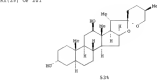
* STRUCTURE DIAGRAM TOO LARGE FOR DESKTOP - AVAILABLE VIA OFFLINE PRINT *

AB A mild, high-yielding synthesis of opt. steroidal pyrenones was achieved from the conversion of 3-oxo-5-ene steroidal steroids, which were produced *in situ* from the triphenylphosphine-iodine reduction of the corresponding 8-alkene ketones. 3-alkenylsteroids 3-one (new) steroidal pyrenones II very cleanly, and two known steroidal pyrenones based on estradiol were also made using this method. Both *in situ* generated pyrenones of the steroidal pyrenones derived from cholesterol were prepared by reaction of 3-alkenylsteroids with triphenylphosphine. A series of steroidal pyrenones was made from the steroidal 3-alkenyl ketones react with 8-alkenyl iodides directly with no need for isolation of intermediate dihydrosteroids. Finally 25,17B-dihydroxycholesterol-3-one diacetate (II) with 3-acetyl-5-methylpyridine-2-one diacetate (II) gave the corresponding enone, pyrene V in moderate yield. Flow of the steroidal pyrenones were measured in the Medical Cancer Institute's assay in vitro, disease-related antitumor screen, but none showed sufficient activity to warrant *in vivo* investigation.

RE(15) OF 261

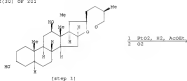


RE(16) OF 261

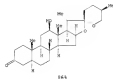


14 ANSWER 15 OF 26 CASREACT COPYRIGHT 2008 ACS OR STN (Continued)

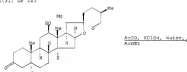
RE(16) OF 261



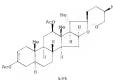
RE(16) OF 261



RE(16) OF 261

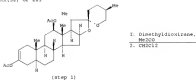


RE(16) OF 261

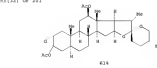


14 ANSWER 15 OF 26 CASREACT COPYRIGHT 2008 ACS OR STN (Continued)

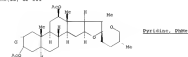
RE(16) OF 261



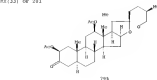
RE(16) OF 261



RE(16) OF 261

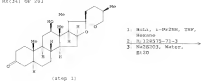


RE(16) OF 261

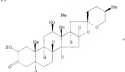


14 ANSWER 15 OF 38 CHARGACT COPYRIGHT 2008 ACS on BTH (Continued)

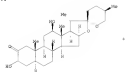
RE(24) OF 201



RE(34) OF 201

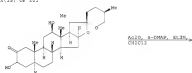


RE(34) OF 201

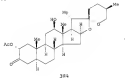


14 ANSWER 15 OF 38 CHARGACT COPYRIGHT 2008 ACS on BTH (Continued)

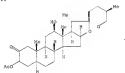
RE(25) OF 201



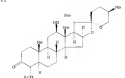
RE(38) OF 201



RE(38) OF 201



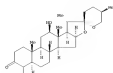
RE(26) OF 201



NOTE: 374 OVERALL

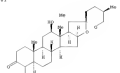
14 ANSWER 15 OF 38 CHARGACT COPYRIGHT 2008 ACS on BTH (Continued)

RE(24) OF 201

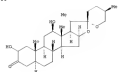


NOTE: 374 OVERALL

RE(25) OF 201



RE(25) OF 201

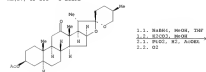


14 ANSWER 15 OF 38 CHARGACT COPYRIGHT 2008 ACS on BTH (Continued)

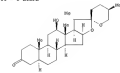
RE(26) OF 201 - REACTION SEQUENCE NOT AVAILABLE

RE(40) OF 201 - REACTION SEQUENCE NOT AVAILABLE

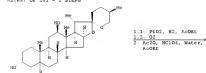
RE(47) OF 201 - 2 STEPS



RE(47) OF 201 - 2 STEPS

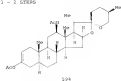


RE(48) OF 201 - 2 STEPS

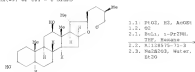


14 ANSWER 15 OF 38 CHARGES COPYRIGHT 2008 ACS on BTH (Continued)

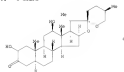
RE(46) OF 331 - 3 STEPS



RE(49) OF 331 - 3 STEPS

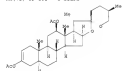


RE(69) OF 331 - 3 STEPS



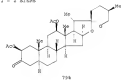
14 ANSWER 25 OF 38 CHARGES COPYRIGHT 2008 ACS on BTH (Continued)

RE(71) OF 331 - 3 STEPS

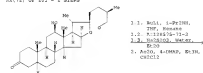


1. 1. Diethylsiloxane,
Et₂O
2. 2. Et₂O
3. 3. Pyridine, Et₂O

RE(71) OF 331 - 3 STEPS

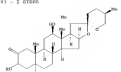


RE(72) OF 331 - 3 STEPS

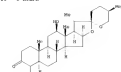


14 ANSWER 15 OF 38 CHARGES COPYRIGHT 2008 ACS on BTH (Continued)

RE(49) OF 331 - 3 STEPS

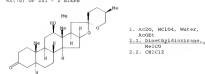


RE(69) OF 331 - 3 STEPS

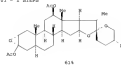


NOTE: 1) 53% OVERALL

RE(70) OF 331 - 3 STEPS

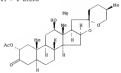


RE(70) OF 331 - 3 STEPS

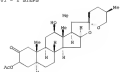


14 ANSWER 25 OF 38 CHARGES COPYRIGHT 2008 ACS on BTH (Continued)

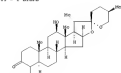
RE(71) OF 331 - 3 STEPS



RE(71) OF 331 - 3 STEPS



RE(72) OF 331 - 3 STEPS



NOTE: 1) 53% OVERALL, 2) 94% OVERALL

RE(71) OF 331 - REACTION SEQUON NOT AVAILABLE

RE(70) OF 331 - REACTION SEQUON NOT AVAILABLE

RE(69) OF 331 - REACTION SEQUON NOT AVAILABLE

RE(112) OF 331 - REACTION SEQUON NOT AVAILABLE

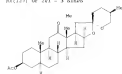
RE(113) OF 331 - REACTION SEQUON NOT AVAILABLE

RE(119) OF 331 - REACTION SEQUON NOT AVAILABLE

RE(120) OF 331 - REACTION SEQUON NOT AVAILABLE

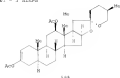
14 ANSWER 15 OF 34 CASREACT COPYRIGHT 2008 ACS on STD (Continued)

RE(121) OF 241 - 3 STEPS

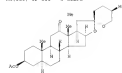


- 1.1. HUBER, MOER, THF
- 1.2. AC202, MOER
- 2.1. AC202, H₂, AC202
- 2.2. AC202, H₂, AC202
3. AC202, H₂, AC202

RE(127) OF 241 - 3 STEPS



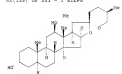
RE(128) OF 241 - 3 STEPS



- 1.1. HUBER, MOER, THF
- 1.2. AC202, MOER
- 2.1. PHOS, H₂, AC202
- 2.2. H₂, AC202
- 3.1. H₂, AC202, H₂, AC202
- 3.2. H₂, AC202, H₂, AC202
- 3.3. H₂, AC202, H₂, AC202

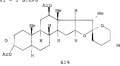
14 ANSWER 15 OF 34 CASREACT COPYRIGHT 2008 ACS on STD (Continued)

RE(129) OF 241 - 3 STEPS

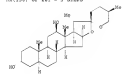


- 1.1. PHOS, H₂, AC202
- 1.2. H₂, AC202
2. AC202, H₂, AC202
- 3.1. Dimethylsiloxane, H₂, AC202
- 3.2. H₂, AC202

RE(129) OF 241 - 3 STEPS

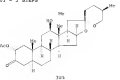


RE(129) OF 241 - 3 STEPS



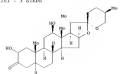
- 1.1. PHOS, H₂, AC202
- 1.2. H₂, AC202
- 2.1. H₂, AC202, H₂, AC202
- 2.2. H₂, AC202, H₂, AC202
3. AC202, H₂, AC202

RE(129) OF 241 - 3 STEPS

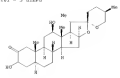


14 ANSWER 15 OF 34 CASREACT COPYRIGHT 2008 ACS on STD (Continued)

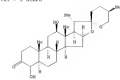
RE(129) OF 241 - 3 STEPS



RE(129) OF 241 - 3 STEPS



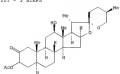
RE(129) OF 241 - 3 STEPS



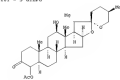
NOTE: 3) 54% OVERALL

14 ANSWER 15 OF 34 CASREACT COPYRIGHT 2008 ACS on STD (Continued)

RE(130) OF 241 - 3 STEPS

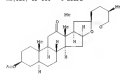


RE(130) OF 241 - 3 STEPS



NOTE: 2) 54% OVERALL, 3) 54% OVERALL

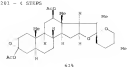
RE(131) OF 241 - 4 STEPS



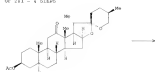
- 1.1. HUBER, MOER, THF
- 1.2. AC202, MOER
- 2.1. H₂, AC202, H₂, AC202
- 2.2. H₂, AC202, H₂, AC202
- 3.1. H₂, AC202, H₂, AC202
- 3.2. H₂, AC202, H₂, AC202
- 4.1. H₂, AC202, H₂, AC202
- 4.2. H₂, AC202, H₂, AC202

14 ANSWER 15 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

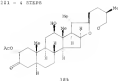
RE(121) OF 261 - 4 STEPS



RE(122) OF 261 - 4 STEPS



RE(123) OF 261 - 4 STEPS

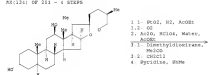


RE(124) OF 261 - 4 STEPS

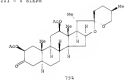


14 ANSWER 15 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(124) OF 261 - 4 STEPS



RE(134) OF 261 - 4 STEPS



RE(126) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(126) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(137) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(138) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(139) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(140) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(141) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(142) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(143) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(144) OF 261 - REACTION SEQUAN NOT AVAILABLE

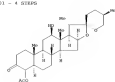
RE(145) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(146) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(147) OF 261 - REACTION SEQUAN NOT AVAILABLE

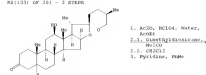
14 ANSWER 15 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(132) OF 261 - 4 STEPS



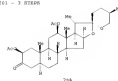
NOTE: 3) 53% OVERALL, 4) 94% OVERALL

RE(133) OF 261 - 3 STEPS



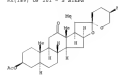
1. AcOH, HClO₄, Water,
AcOH
2.3. Dimethylsiloxane,
HClO₄
2.1. CHCl₃
2. Pyridine, Pyridine

RE(135) OF 261 - 3 STEPS



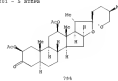
14 ANSWER 15 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(184) OF 261 - 5 STEPS



1.3. H₂O₂, MeOH, THF
1.2. H₂O₂, MeOH
2.3. H₂O₂, MeOH
2.2. H₂O
2. AcOH, HClO₄, MeOH,
AcOH
4.1. Dimethylsiloxane,
HClO₄
1. MeOH
4.1. CHCl₃
5. Pyridine, Pyridine

RE(185) OF 261 - 5 STEPS



RE(130) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(131) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(132) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(133) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(134) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(135) OF 261 - REACTION SEQUAN NOT AVAILABLE

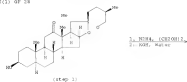
RE(136) OF 261 - REACTION SEQUAN NOT AVAILABLE

RE(137) OF 261 - REACTION SEQUAN NOT AVAILABLE

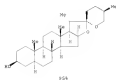
RE(138) OF 261 - REACTION SEQUAN NOT AVAILABLE

14 ANSWER 14 OF 26 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)
 15 131/00143 CHARGACT
 16 synthesis of ophreolide from hecogenin
 17 Peter Gorka, Juan Alberto Riquelme-Aguirre, Jose Manuel Velaz Castro,
 18 (Merck), Fouda Dine, Argentina
 19 Org. Lett. 5, 144, Dec. 1998, 144
 20 Revista Cubana de Farmacia (1992), 34(1), 33-35
 21 Chem. Abstracts (1992), 124:144
 22 ophreolide
 23 ophreolide
 24 ophreolide
 25 ophreolide was obtained by a 3-step procedure starting from hecogenin

RE(1) OF 26

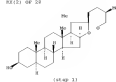


RE(2) OF 26



14 ANSWER 14 OF 26 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

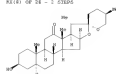
RE(3) OF 26



1. AcOH, Pyridine,
 2. AcOH, Pyridine,
 3. AcOH, Pyridine



RE(4) OF 26 - 2 STEPS

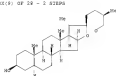


1.1. AcOH, Pyridine,
 1.2. AcOH, Pyridine,
 1.3. AcOH, Pyridine,
 2.1. AcOH, Pyridine,
 2.2. AcOH, Pyridine,
 2.3. AcOH, Pyridine



14 ANSWER 14 OF 26 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

RE(5) OF 26 - 2 STEPS



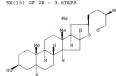
1.1. AcOH, Pyridine,
 1.2. AcOH, Pyridine,
 1.3. AcOH, Pyridine,
 2.1. AcOH, Pyridine,
 2.2. AcOH, Pyridine,
 2.3. AcOH, Pyridine

RE(6) OF 26 - 2 STEPS



14 ANSWER 14 OF 26 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

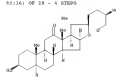
RE(10) OF 26 - 3 STEPS



1.1. AcOH, Pyridine,
 1.2. AcOH, Pyridine,
 1.3. AcOH, Pyridine,
 2.1. AcOH, Pyridine,
 2.2. AcOH, Pyridine,
 2.3. AcOH, Pyridine



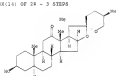
RE(14) OF 26 - 4 STEPS



→



RE(14) OF 26 - 3 STEPS



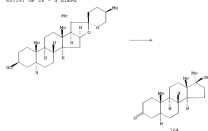
1.1. AcOH, Pyridine,
 1.2. AcOH, Pyridine,
 1.3. AcOH, Pyridine,
 2.1. AcOH, Pyridine,
 2.2. AcOH, Pyridine,
 2.3. AcOH, Pyridine

RE(14) OF 26 - 3 STEPS

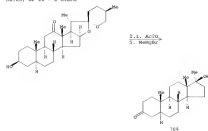


14 ANSWER 16 OF 20 CASSIAC COPYRIGHT 2009 ACS 46.37K (Continued)

MS1241 CW 28 - 5 ATTOPS

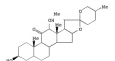


BX1261 CR 28 - 6 STEPS



14 ANSWER 27 OF 38 CASREACT COPYRIGHT 2004 ACS on STN

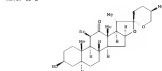
| | |
|----|---|
| TI | Transposition of the carbonyl group in hecogenin |
| AE | Ruiz Garcia, Jose Alberto |
| CS | Dep. Med., Lab. Tec. Med., Havana, Cuba |
| SO | Revista Cubana de Farmacia (1982), 25(2), 100-5
CODEN: ACUFAC; ISSN: 0024-7515 |
| DT | Journal |
| LA | Spanish |
| GE | |



12. Bromination of hecogenin (3 β -hydroxypregn-20-one) afforded 11 β -bromohecogenin, which was hydrolyzed with 10% a/c. NaOH solution to give 3 β ,11 β -dihydroxypregn-20-one (II).



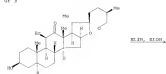
Br2, HCl, EtOH



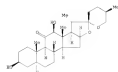
PAGE 2 OF 2

14 ABSTRACT 17 OF 26 CHEMABSTRACT COPYRIGHT 2004 ACS on STN (CONTINUED)

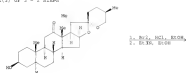
RE(2) OF 9



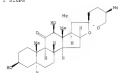
RE(2) OF 9



RE(2) OF 9 - 2 STEPS



RE(2) OF 9 - 2 STEPS

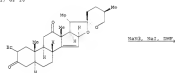


14 ABSTRACT 18 OF 26 CHEMABSTRACT COPYRIGHT 2004 ACS on STN
 AS 1311686-1
 TI A ROUTE TO A cephalosporin analog
 AU Gentry, Andrew J;Danz, William; Winterfeldt, Alexander
 CR Dalk, Stefan; Chen, Guo; Karrow, Karrow; Kiesel, Germany
 RE Journal of the Chemical Society, Perkin Transactions 1: Organic and
 Bio-Organic Chemistry (1972-1999) (1999), (23), 3865-7
 COORD. JOURNAL: 1999: 3865-3870
 DB Chemical
 LA English
 DT

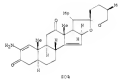
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Starting from compound 1, a short route to cephalosporin analog II
 [X = H, R₁ = OH] is described. The key step was the cyclic dimerization
 of model ketone III to cephalosporin analog II (R₁ = H) by
 hydrogenation.

RE(1) OF 10



RE(1) OF 10



RE(2) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RE(4) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RE(5) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RE(6) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RE(7) OF 10 - REACTION DIAGRAM NOT AVAILABLE

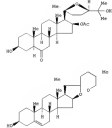
RE(8) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RE(9) OF 10 - REACTION DIAGRAM NOT AVAILABLE

RE(10) OF 10 - REACTION DIAGRAM NOT AVAILABLE

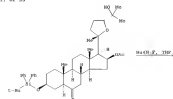
14 ABSTRACT 17 OF 26 CHEMABSTRACT COPYRIGHT 2004 ACS on STN (CONTINUED)

14 ABSTRACT 18 OF 26 CHEMABSTRACT COPYRIGHT 2004 ACS on STN
 1311686-1
 TI A ROUTE TO A cephalosporin analog
 AU Gentry, Andrew J;Danz, William; Winterfeldt, Alexander
 CR Dalk, Stefan; Chen, Guo; Karrow, Karrow; Kiesel, Germany
 RE Journal of the Chemical Society, Perkin Transactions 1: Organic and
 Bio-Organic Chemistry (1972-1999) (1999), (23), 3865-7
 COORD. JOURNAL: 1999: 3865-3870
 DB Chemical
 LA English
 DT



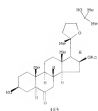
AB The title compound (II), which was isolated as its 3β-sulphate from
 the defoliate secretion of *Chrysomela varians* (Chrysomelidae),
 has been synthesized from compound (I) in 8 steps.

RE(1) OF 33

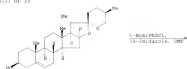


14 ANSWER 19 OF 34 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

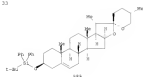
RE(1) OF 33



RE(2) OF 33

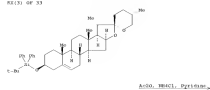


RE(2) OF 33

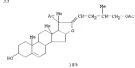


14 ANSWER 19 OF 34 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

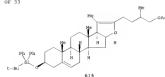
RE(3) OF 33



RE(3) OF 33

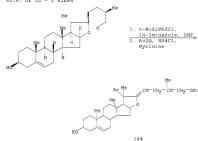


RE(3) OF 33

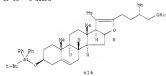


14 ANSWER 19 OF 34 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

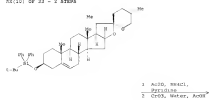
RE(4) OF 33 - 2 STEPS



RE(4) OF 33 - 2 STEPS

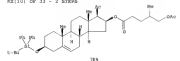


RE(10) OF 33 - 2 STEPS

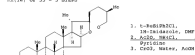


14 ANSWER 19 OF 34 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

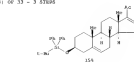
RE(10) OF 33 - 2 STEPS



RE(14) OF 33 - 3 STEPS

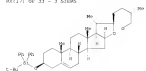


RE(14) OF 33 - 3 STEPS



14 ANSWER 19 OF 34 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

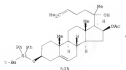
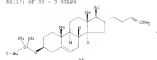
RE(14) OF 33 - 3 STEPS



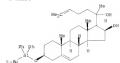
1. Acid, HNEtCl, Pyridine
2. CH₃, MeOH, AcOH
3. Me₂SO, CH₂Cl₂, AcOH

Mg, 60-70

RE(15) OF 33 - 3 STEPS

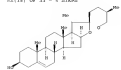


RE(16) OF 33 - 3 STEPS



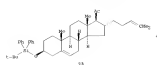
14 ANSWER 19 OF 34 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(18) OF 33 - 4 STEPS

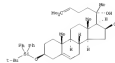
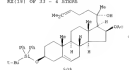


1. t-BuLi/PhCl, 18-Crown-6, DMF
2. Acid, HNEtCl, Pyridine
3. CH₃, MeOH, AcOH
4. Me₂SO, CH₂Cl₂, AcOH

Mg, 60-70

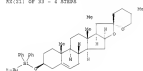


RE(19) OF 33 - 4 STEPS



14 ANSWER 19 OF 34 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

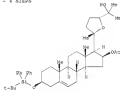
RE(21) OF 33 - 4 STEPS



1. Acid, HNEtCl, Pyridine
2. CH₃, MeOH, AcOH
3. Me₂SO, CH₂Cl₂, AcOH
4. VO acetylacetonate, t-BuOH, CH₂Cl₂

Mg, 60-70

RE(22) OF 33 - 4 STEPS

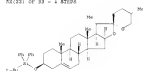


steroid isomer

72%

NOTE: 4) 14β-pimar is a trace product

RE(23) OF 33 - 4 STEPS

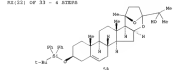


1. Acid, HNEtCl, Pyridine
2. CH₃, MeOH, AcOH
3. Me₂SO, CH₂Cl₂, AcOH
4. VO acetylacetonate, t-BuOH, CH₂Cl₂

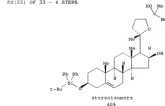
Mg, 60-70

14 ANSWER 19 OF 34 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

RE(25) OF 33 - 4 STEPS



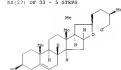
RE(26) OF 33 - 4 STEPS



steroid isomer

40%

RE(27) OF 33 - 5 STEPS

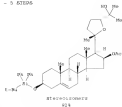


1. t-BuLi/PhCl, 18-Crown-6, DMF
2. Acid, HNEtCl, Pyridine
3. CH₃, MeOH, AcOH
4. Me₂SO, CH₂Cl₂, AcOH
5. VO acetylacetonate, t-BuOH, CH₂Cl₂

Mg, 60-70

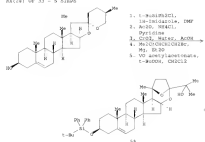
14 ANSWER 19 OF 34 CHARGACT COPYRIGHT 2008 ACS vs. STN (Continued)

RE(17) OF 33 - 5 STEPS



NOTE: 5) 14β-epoxide is a trace product

RE(18) OF 33 - 5 STEPS

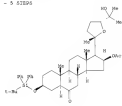


1. t-BuOLi/THF
2. 10-phenyl-10H-phenanthrene, DMF
3. AcCl, HBrCl
4. Pyridine
5. 1,4-dioxane, AcOH

Reagents: 1. t-BuOLi, 2. 10-phenyl-10H-phenanthrene, 3. AcCl, 4. Pyridine, 5. 1,4-dioxane, 6. AcOH

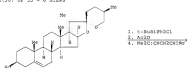
14 ANSWER 19 OF 34 CHARGACT COPYRIGHT 2008 ACS vs. STN (Continued)

RE(19) OF 33 - 5 STEPS



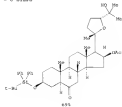
NOTE: 4) 14β-epoxide is a trace product, 5) second step - ultrasound

RE(20) OF 33 - 6 STEPS



1. t-BuOLi/THF
2. AcCl
3. Pyridine
4. 1,4-dioxane, AcOH

RE(21) OF 33 - 6 STEPS



NOTE: 5) 14β-epoxide is a trace product, 6) second step - ultrasound

14 ANSWER 19 OF 34 CHARGACT COPYRIGHT 2008 ACS vs. STN (Continued)

RE(22) OF 33 - 5 STEPS



RE(23) OF 33 - 5 STEPS



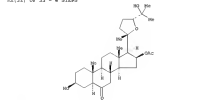
1. AcCl, HBrCl
2. AcCl, HBrCl
3. 1,4-dioxane, AcOH
4. 1,4-dioxane, AcOH
5. 1,4-dioxane, AcOH
6. 1,4-dioxane, AcOH
7. 1,4-dioxane, AcOH
8. 1,4-dioxane, AcOH
9. 1,4-dioxane, AcOH
10. 1,4-dioxane, AcOH

14 ANSWER 19 OF 34 CHARGACT COPYRIGHT 2008 ACS vs. STN (Continued)

RE(24) OF 33 - 6 STEPS



RE(25) OF 33 - 6 STEPS



NOTE: 4) 14β-epoxide is a trace product, 5) second step - ultrasound

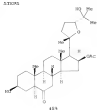
RE(26) OF 33 - 7 STEPS



1. t-BuOLi/THF
2. AcCl
3. Pyridine
4. 1,4-dioxane, AcOH

14 ANSWER 19 OF 38 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RX(1) OF 21 - 3 AXDPA



NOTE: 5) 245-epoxide is a trace product, 6) second step - ultrasound

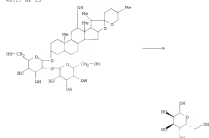
14A ANSWER 20 OF 38 CASREACT COPYRIGHT 2008 ACS on STN

116-19475 CASREACT

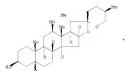
11 Reproductive reduction of ketones by an oxidative coupling system
 12 16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098-1099-1100-1101-1102-1103-1104-1105-1106-1107-1108-1109-1110-1111-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-1205-1206-1207-1208-1209-1210-1211-1212-1213-1214-1215-1216-1217-1218-1219-1220-1221-1222-1223-1224-1225-1226-1227-1228-122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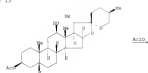
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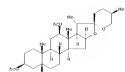


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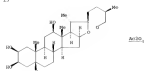


14 ANSWER 31 OF 38 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

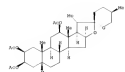
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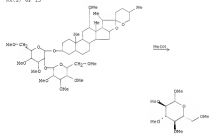


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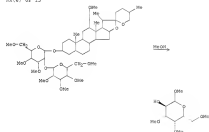


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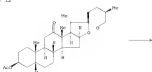
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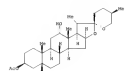


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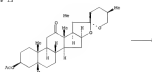


14 ANSWER 31 OF 38 CHEMTEXT COPYRIGHT 2008 ACS on STN (Continued)

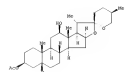
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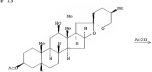
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RE(8) OF 13

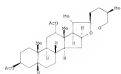


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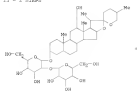


14 ANSWER 31 OF 38 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

RE(9) OF 13



RE(10) OF 13 - 2 STEPS

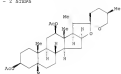


RE(10) OF 13 - 2 STEPS

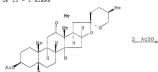


14 ANSWER 31 OF 38 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

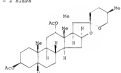
RE(11) OF 13 - 2 STEPS



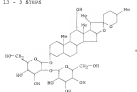
RE(12) OF 13 - 2 STEPS



RE(13) OF 13 - 3 STEPS



RE(12) OF 13 - 3 STEPS

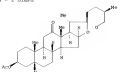


14 ANSWER 31 OF 38 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

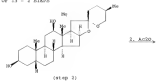
RE(10) OF 13 - 2 STEPS



RE(11) OF 13 - 2 STEPS

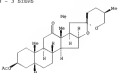


RE(11) OF 13 - 3 STEPS

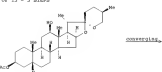


14 ANSWER 31 OF 38 CHARACTER COPYRIGHT 2008 ACS on STN (Continued)

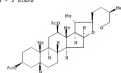
RE(13) OF 13 - 3 STEPS



RE(12) OF 13 - 3 STEPS

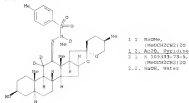


RE(12) OF 13 - 3 STEPS

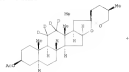


14 ANSWER 32 OF 34 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

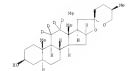
RE(10) OF 34 - 2 STEPS



RE(10) OF 34 - 2 STEPS

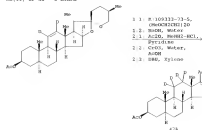


RE(10) OF 34 - 2 STEPS

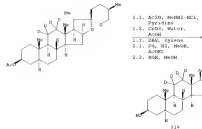


14 ANSWER 32 OF 34 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(11) OF 34 - 2 STEPS

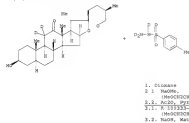


RE(11) OF 34 - 2 STEPS

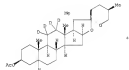


14 ANSWER 32 OF 34 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

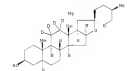
RE(14) OF 34 - 3 STEPS



RE(14) OF 34 - 3 STEPS

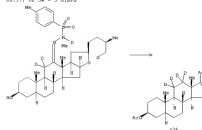


RE(14) OF 34 - 3 STEPS

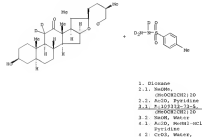


14 ANSWER 32 OF 34 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

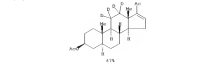
RE(17) OF 34 - 3 STEPS



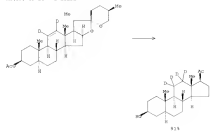
RE(18) OF 34 - 4 STEPS



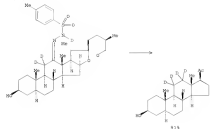
RE(18) OF 34 - 4 STEPS



14 ANSWER 32 OF 34 CASREACT COPYRIGHT 2008 ACS on STN (Continued)
 RE(19) OF 34 - 3 STEPS

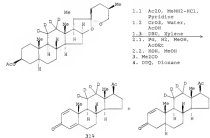


RE(20) OF 34 - 4 STEPS



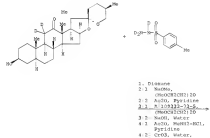
14 ANSWER 32 OF 34 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(24) OF 34 - 4 STEPS



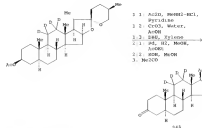
NOTE: 3) Jones oxide.

RE(27) OF 34 - 5 STEPS



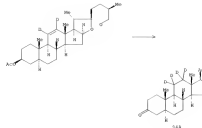
14 ANSWER 32 OF 34 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(31) OF 34 - 3 STEPS



NOTE: 3) Jones oxide.

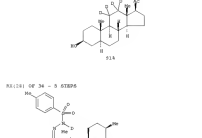
RE(32) OF 34 - 4 STEPS



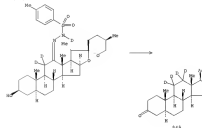
NOTE: 4) Jones oxide.

14 ANSWER 32 OF 34 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(37) OF 34 - 5 STEPS

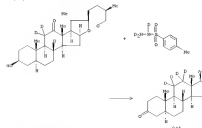


RE(34) OF 34 - 5 STEPS



NOTE: 5) Jones oxide.

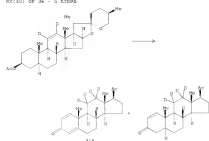
RE(39) OF 34 - 4 STEPS



NOTE: 4) Jones oxide.

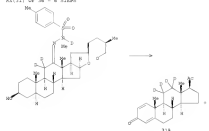
14 ANSWER 11 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(30) OF 34 - 5 STEPS



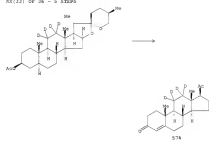
NOTE: 4) Jones oxidn.

RE(31) OF 34 - 6 STEPS



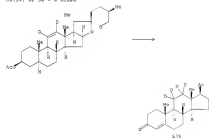
14 ANSWER 32 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(32) OF 34 - 5 STEPS



NOTE: 3) Jones oxidn.

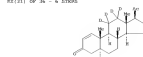
RE(34) OF 34 - 6 STEPS



NOTE: 4) Jones oxidn.

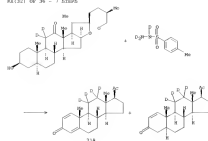
14 ANSWER 33 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(31) OF 34 - 6 STEPS



NOTE: 3) Jones oxidn.

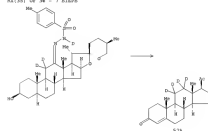
RE(32) OF 34 - 7 STEPS



NOTE: 4) Jones oxidn.

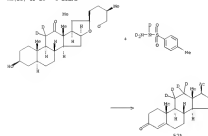
14 ANSWER 32 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(36) OF 34 - 7 STEPS



NOTE: 5) Jones oxidn.

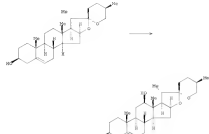
RE(34) OF 34 - 8 STEPS



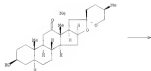
NOTE: 4) Jones oxidn.

14 ANSWER 11 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)
 A6 13110123 CHARGACT
 T1 Microbiological Transformations of hecogenin and diogenin by
 Cunninghamella elegans
 A1 Blanton, Gerald; Patel, Ananta V.; Orsillo, Trevor A.
 Q1 J. Nat. Prod. Biomed. Sci., Portsmouth Polytech., Portsmouth, UK 202, UK
 Q2 Phytochemistry 13300; 2014; 1771-82
 Q3 **INDEXING** (ABSTRACT, TITLE, KEY)
 Q4 English
 A6 Discussion of hecogenin with C. elegans led to the formation of
 (11a)-11,19,19-dihydroxy-3a-oxohecogenin-12-one,
 (14a)-14,19-dihydroxy-3a-oxohecogenin-12-one, and
 (14a)-19-hydroxy-3a-oxohecogenin-12-one. Isolation of
 (13a)-hecogenin-3a-oxo-12-one (diogenin) with the same fungal gene code to
 (13a)-hecogenin-3a-oxo-12-one, (14a)-11,19,19-dihydroxy-3a-oxohecogenin-12-one and
 (14a)-19,19-dihydroxy-3a-oxohecogenin-12-one.

RE(1) OF 14

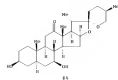


RE(2) OF 14

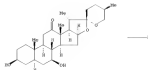


14 ANSWER 12 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

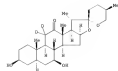
RE(3) OF 14



RE(4) OF 14

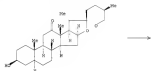


RE(5) OF 14

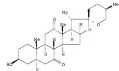


14 ANSWER 13 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

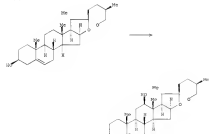
RE(6) OF 14



RE(7) OF 14

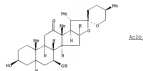


RE(8) OF 14

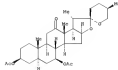


14 ANSWER 14 OF 34 CHARGACT COPYRIGHT 2004 ACS on STN (Continued)

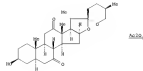
RE(9) OF 14



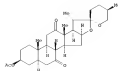
RE(10) OF 14



RE(11) OF 14

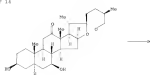


RE(12) OF 14

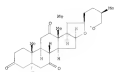


14 ANSWER 33 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

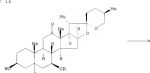
RE(8) OF 14



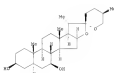
RE(8) OF 14



RE(8) OF 14

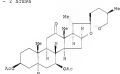


RE(8) OF 14

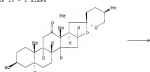


14 ANSWER 33 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

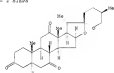
RE(11) OF 14 - 2 STEPS



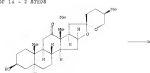
RE(12) OF 14 - 2 STEPS



RE(13) OF 14 - 3 STEPS

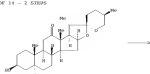


RE(13) OF 14 - 3 STEPS

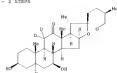


14 ANSWER 33 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

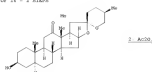
RE(10) OF 14 - 2 STEPS



RE(10) OF 14 - 2 STEPS

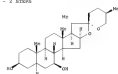


RE(11) OF 14 - 2 STEPS

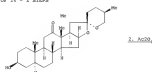


14 ANSWER 33 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

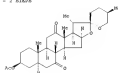
RE(13) OF 14 - 2 STEPS



RE(14) OF 14 - 2 STEPS

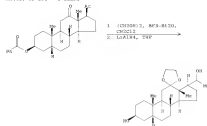


RE(14) OF 14 - 2 STEPS

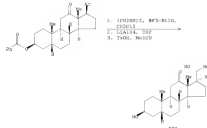


14 ANSWER 34 OF 38 CAGREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(41) OF 355 - 3 STEPS

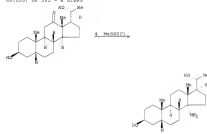


RE(41) OF 355 - 3 STEPS



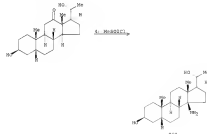
14 ANSWER 34 OF 38 CAGREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(100) OF 355 - 4 STEPS



NOTE: 1) photochem.

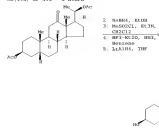
RE(107) OF 355 - 4 STEPS



NOTE: 1) photochem.

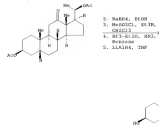
14 ANSWER 34 OF 38 CAGREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(154) OF 355 - 5 STEPS



NOTE: 1) photochem.

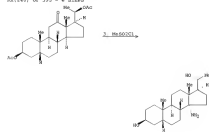
RE(157) OF 355 - 5 STEPS



NOTE: 1) photochem.

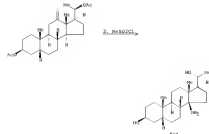
14 ANSWER 34 OF 38 CAGREACT COPYRIGHT 2008 ACS on STN (Continued)

RE(140) OF 355 - 4 STEPS



NOTE: 1) photochem

RE(141) OF 355 - 4 STEPS



NOTE: 1) photochem

14 ANSWER 34 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(143) OF 315 - 4 STEPS

2, Me500C1₁

515

NOTE: 1) photochem.

RE(144) OF 315 - 6 STEPS

2, Me500C1₁

515

NOTE: 1) photochem.

14 ANSWER 34 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(150) OF 315 - 4 STEPS

2, Me500C1₁

515

NOTE: 1) photochem.

RE(151) OF 315 - 7 STEPS

5, Me500C1₁

515

NOTE: 2) photochem.

14 ANSWER 34 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(146) OF 315 - 4 STEPS

2, Me500C1₁

515

NOTE: 2) photochem.

RE(147) OF 315 - 6 STEPS

3, Me500C1₁

515

NOTE: 1) photochem.

14 ANSWER 34 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(152) OF 315 - 7 STEPS

5, Me500C1₁

515

NOTE: 2) photochem.

RE(154) OF 315 - 7 STEPS

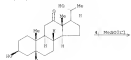
5, Me500C1₁

515

NOTE: 2) photochem.

14 ANSWER 34 OF 34 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

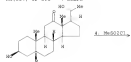
RE(154) OF 335 - 7 STEPS

A...MnSO₄Cl₂

514

NOTE: 2) photochem.

RE(157) OF 335 - 7 STEPS

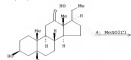
A...MnSO₄Cl₂

514

NOTE: 2) photochem.

14 ANSWER 34 OF 34 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

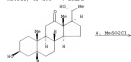
RE(158) OF 335 - 7 STEPS

A...MnSO₄Cl₂

514

NOTE: 2) photochem.

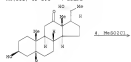
RE(161) OF 335 - 7 STEPS

A...MnSO₄Cl₂

514

14 ANSWER 34 OF 34 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(164) OF 335 - 7 STEPS

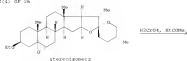
A...MnSO₄Cl₂

514

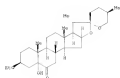
-> d bib abs ord 35-

14 ANSWER 34 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

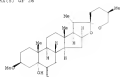
RE(4) OF 34



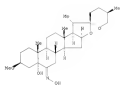
RE(5) OF 34



RE(6) OF 34

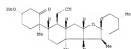
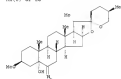


RE(8) OF 34

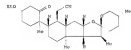
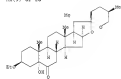


14 ANSWER 34 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(8) OF 34

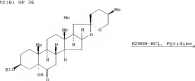


RE(9) OF 34

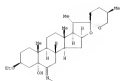


14 ANSWER 34 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

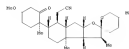
RE(6) OF 34



RE(6) OF 34

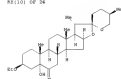


RE(7) OF 34

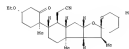


14 ANSWER 34 OF 38 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

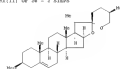
RE(10) OF 34



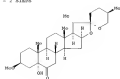
steroid-14-OH



RE(11) OF 34 - 3 STEPS

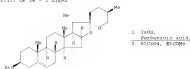
1. 2008
Phosphoric acid,
2. 2008, 2008

RE(11) OF 34 - 3 STEPS

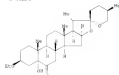


14 ANSWER 34 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

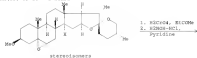
RE(11) OF 24 - 2 STEPS



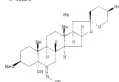
RE(17) OF 24 - 2 STEPS



RE(13) OF 24 - 2 STEPS

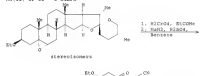


RE(12) OF 24 - 2 STEPS

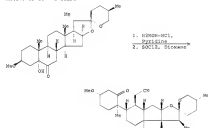


14 ANSWER 34 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

RE(14) OF 24 - 2 STEPS

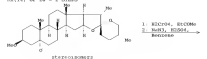


RE(17) OF 24 - 2 STEPS

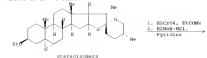


14 ANSWER 34 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

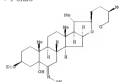
RE(14) OF 24 - 2 STEPS



RE(15) OF 24 - 2 STEPS

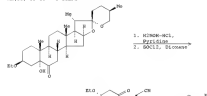


RE(16) OF 24 - 2 STEPS

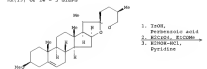


14 ANSWER 34 OF 38 CHARGACT COPYRIGHT 2008 ACS on STM (Continued)

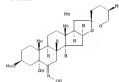
RE(18) OF 24 - 2 STEPS



RE(15) OF 24 - 2 STEPS

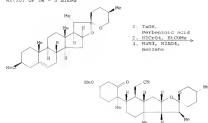


RE(16) OF 24 - 2 STEPS

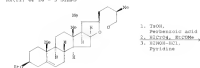


14 ANSWER 34 OF 34 CHARGED COPYRIGHT 2008 ACS on STN (Continued)

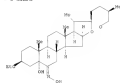
RE(10) OF 24 - 3 STEPS



RE(11) OF 24 - 3 STEPS

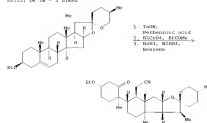


RE(12) OF 24 - 3 STEPS

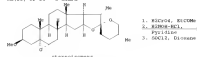


14 ANSWER 34 OF 34 CHARGED COPYRIGHT 2008 ACS on STN (Continued)

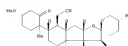
RE(13) OF 24 - 3 STEPS



RE(14) OF 24 - 3 STEPS



STEREODISOMERS

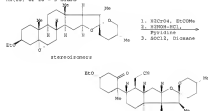


14 ANSWER 34 OF 34 CHARGED COPYRIGHT 2008 ACS on STN (Continued)

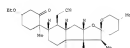
RE(15) OF 24 - 4 STEPS



RE(16) OF 24 - 4 STEPS



STEREODISOMERS



14 ANSWER 34 OF 34 CHARGED COPYRIGHT 2008 ACS on STN (Continued)

RE(17) OF 24 - 4 STEPS



RE(18) OF 24 - 4 STEPS



14 ANSWER 17 OF 24 CASREACT COPYRIGHT 2008 ACS on STN

A6 1313223 CASREACT

T1 Synthesis of the allylic gonadal steroids, 20-hydroxy-6-pregnen-20-one and 20-hydroxy-4-androstadien-20-one, and of 16-hydroxy-20-pregnen-20-one

A11 Makin, J. P.; Gillette, C. J.; Buckingham, R. D.; Davis, Vincent; Brothers, J. R.

CS Dep. Biol., Univ. West. Ontario, London, N6A 3K7, ON

NO Steroids 1393, 4511, 20-21

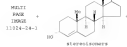
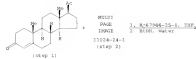
COORD. CSDOWN 1393-1396

OT Journal

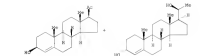
SA English

A6 The recently isolated allylic gonadal steroids, 20-hydroxy-6-pregnen-20-one (I) and 20-hydroxy-4-androstadien-20-one (II), were prepared using propionic acid 4-oxobutanoate 3,10-dione as substrate and potassium tetrakisoxobutanoate (KOB) as reducing agent. Similar reactions were also used for the reduction of 16-pregnen-20-one to 20-hydroxy-6-pregnen-20-one (III). The yields were about 18%, 34%, and 24% for I, II, and III, respectively. Structures of the products, including the 3k-tomers and the 17k-spiner, formed in these reactions were determined by IR and mass spectrometric methods.

R6(1) OF 11



R6(1) OF 11

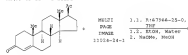


14 ANSWER 37 OF 24 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

R6(7) OF 11 - 2 STERDS

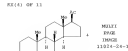


R6(8) OF 11 - 2 STERDS

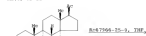


14 ANSWER 37 OF 24 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

R6(1) OF 11



R6(1) OF 11

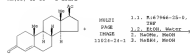


14 ANSWER 37 OF 24 CASREACT COPYRIGHT 2008 ACS on STN (Continued)

R6(10) OF 11 - 2 STERDS

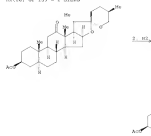


R6(11) OF 11 - 2 STERDS

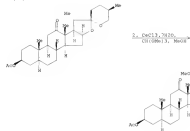


14 ANSWER 38 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

RE(16) OF 159 - 3 STEPS

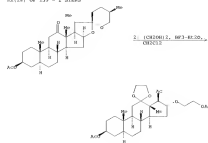


RE(17) OF 159 - 3 STEPS

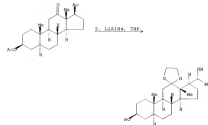


14 ANSWER 38 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

RE(18) OF 159 - 3 STEPS

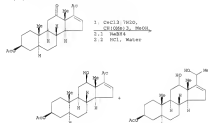


RE(19) OF 159 - 3 STEPS

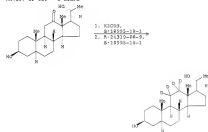


14 ANSWER 38 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

RE(20) OF 159 - 3 STEPS

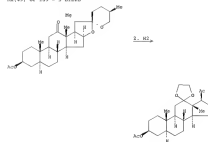


RE(21) OF 159 - 3 STEPS

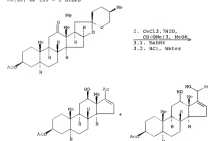


14 ANSWER 38 OF 38 CHARGACT COPYRIGHT 2008 ACS on STN (Continued)

RE(22) OF 159 - 3 STEPS

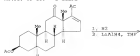


RE(23) OF 159 - 3 STEPS

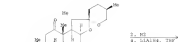


14 APPROX 18 OF 28 CHARACTERS COPYRIGHT 2008 AOL INC. (CONTINUED)

PAGE 11 OF 18 - 3 STEPS

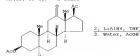


NE(52) OF 159 -- 4 STEPS.

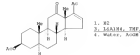


14 ANSWER 18 OF 18 CURRENT COPYRIGHT 2009 ACT ON STE (CONTINUED)

REASON: 00' 159 = 3 STEPS

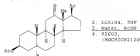


RE(5-6) OF 159 - 4 STEPS

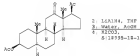


14 ANSWER 14 OF 14 CAGNOLACT COPYRIGHT 2008 ACS on STN (Continued)

RX(10) OF 150 - 4 STEPS



NR(60) OF 159 - 4 STEPS

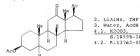


14 ASSMEN 38 OF 38 CAGREACT COPYRIGHT 2004 ACS on BTR (Continued)

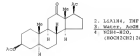
```

RX(61)  CP 150 = 4 STEPS

```

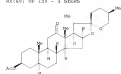


EX(42) OF 159 - 4 STEPS



14 ANSWER 36 OF 36 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

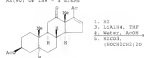
RE(61) OF 151 - 5 STEPS



2. H₂
3. LiAlH₄, THF
4. MeOH, AcOH
5. Water, AcOH



RE(62) OF 151 - 5 STEPS

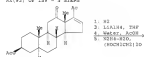


1. H₂
2. LiAlH₄, THF
3. MeOH, AcOH
4. H₂O
5. (H₂O)(H₂O) 10



14 ANSWER 36 OF 36 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

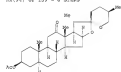
RE(63) OF 151 - 5 STEPS



1. H₂
2. LiAlH₄, THF
3. MeOH, AcOH
4. H₂O
5. (H₂O)(H₂O) 10

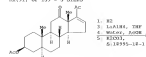


RE(64) OF 151 - 4 STEPS



14 ANSWER 36 OF 36 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

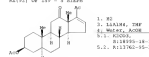
RE(71) OF 151 - 5 STEPS



1. H₂
2. LiAlH₄, THF
3. MeOH, AcOH
4. H₂O
5. (H₂O)(H₂O) 10



RE(72) OF 151 - 5 STEPS

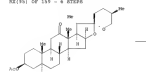


1. H₂
2. LiAlH₄, THF
3. MeOH, AcOH
4. H₂O
5. (H₂O)(H₂O) 10

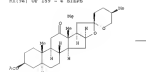


14 ANSWER 36 OF 36 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(81) OF 151 - 4 STEPS

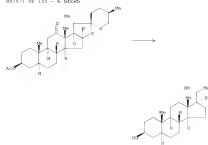


RE(82) OF 151 - 4 STEPS

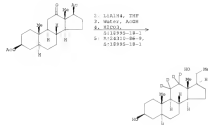


14 ANSWER 36 OF 36 CHALLENGE COPYRIGHT 2008 ACS on STN (Continued)

RE(97) OF 153 - 4 STEPS

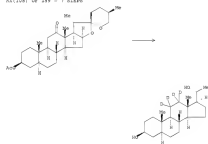


RE(99) OF 154 - 5 STEPS

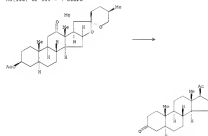


14 ANSWER 36 OF 36 CHALLENGE COPYRIGHT 2008 ACS on STN (Continued)

RE(106) OF 154 - 7 STEPS

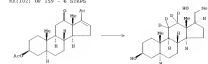


RE(108) OF 155 - 7 STEPS

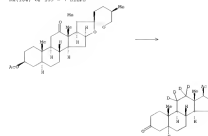


14 ANSWER 36 OF 36 CHALLENGE COPYRIGHT 2008 ACS on STN (Continued)

RE(102) OF 159 - 4 STEPS

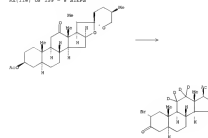


RE(104) OF 159 - 7 STEPS

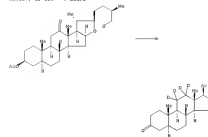


14 ANSWER 36 OF 36 CHALLENGE COPYRIGHT 2008 ACS on STN (Continued)

RE(116) OF 159 - 8 STEPS

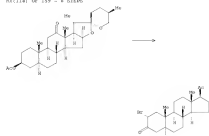


RE(117) OF 159 - 8 STEPS



14 ANSWER 36 OF 36 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(148) OF 159 - 6 STEPS

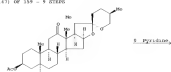


RE(148) OF 159 - 6 STEPS



14 ANSWER 36 OF 36 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(147) OF 159 - 9 STEPS



RE(147) OF 159 - 9 STEPS



RE(149) OF 159 - 10 STEPS

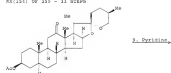


14 ANSWER 36 OF 36 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(148) OF 159 - 10 STEPS



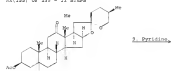
RE(151) OF 159 - 11 STEPS



2-pyridone



RE(152) OF 159 - 11 STEPS

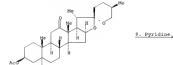


2-pyridone



14 ANSWER 36 OF 36 CHARGES COPYRIGHT 2008 ACS on STN (Continued)

RE(149) OF 159 - 12 STEPS



2-pyridone



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